

**BEFORE**

**THE PUBLIC SERVICE COMMISSION OF**

**SOUTH CAROLINA**

**DOCKET NO. 2021-88-E**

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Dominion Energy South Carolina, Incorporated's 2021 Avoided Cost Proceeding Pursuant to S.C. Code Ann. Section 58-41-20(A)	) ) ) ) ) )	<b>PARTIAL PROPOSED ORDER OF          THE SOUTH CAROLINA COASTAL          CONSERVATION LEAGUE AND          SOUTHERN ALLIANCE FOR CLEAN          ENERGY</b>
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COME NOW Intervenor the South Carolina Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE"), pursuant to oral instructions from the Vice Chair of the Commission at the conclusion of the Hearing on October 13, 2021, hereby file this Partial Proposed Order. This Partial Proposed Order addresses issues related to those raised by SACE/CCL Witness Kenneth Sercy. SACE and CCL support the Partial Proposed Order filed by the Carolinas Clean Energy Business Association ("CCEBA") related to the Variable Integration Charge and contract term issues in this proceeding, and the legal principles outlined in the brief filed by Pine Gate Renewables ("PGR").

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## I. INTRODUCTION

This matter comes before the Public Service Commission of South Carolina (“Commission”) pursuant to the requirements of S.C. Code Ann. § 58-41-20 as contained in the Energy Freedom Act of 2019 (“EFA” or “Act 62”). Pursuant to S.C. Code Ann. § 58-41-20, Dominion Energy South Carolina, Inc.’s (“DESC” or the “Company”) seeks approval of its 2021 avoided cost rates, cost methodologies, form contract power purchase agreements, commitment to sell forms, and other terms or conditions. In brief, we find DESC’s proposed avoided cost rates and methodologies do not meet the requirements of Act 62 and require the Company to revise a number of key inputs and assumptions based on intervenor recommendations.

S.C. Code Ann. § 58-41-20 of Act 62 requires that DESC’s avoided cost rates be accurate, fair, and transparent. “Accuracy” ensures ratepayers are held harmless—and do not pay more or less for energy otherwise purchased from a utility. It also ensures that small power producers are receiving fair compensation, and being given a fair chance to compete. But the Commission may only verify the accuracy of an avoided cost application that is “reasonably transparent” and presents methodological support for proposed rates.

Now, with the benefit of intervenors’ and an independent consultant’s review, the Commission finds DESC’s application falls short of each requirement. As proposed, DESC’s avoided cost rates incorporate unreasonable gas price forecasts, unverifiable cost data, and an unsubstantiated seasonal capacity allocation. Moreover, DESC left basic assumptions out of its initial and revised applications and testimony and failed to present key methodologies in a format that allowed independent review. Accordingly, for the reasons set out below, DESC’s 2021 avoided cost application as proposed is unreasonable

and requires numerous revisions to protect ratepayers and ensure small power producers are receiving fair compensation.

## **II. NOTICE AND INTERVENTION**

On March 10, 2021, the Clerk's Office of the Commission opened this docket and directed DESC to file its 2021 avoided cost application ("Application") with the Commission by April 22, 2021. The directive indicated the nature of the proceeding and advised all parties desiring to participate of the manner and time in which to file appropriate pleadings. By letter dated April 30, 2021, the Clerk's Office of the Commission transmitted the Notice of Filing and Hearing and Prefile testimony Deadlines ("Notice") to DESC. In accordance with that directive, DESC filed affidavits On May 24, 2021, demonstrating that the Notice was published in newspapers of general circulation and duly furnished to small power producers and cogenerators impacted by the Company's avoided cost application.

Petitions to Intervene were received from Johnson Development Associates, Incorporated ("JDA"), the South Carolina Department of Consumer Affairs ("DCA"), Carolinas Clean Energy Business Association ("CCEBA"), Pine Gate Renewables, LLC ("PGR"), and the South Carolina Coastal Conservation League and Southern Alliance for Clean Energy ("CCL/SACE"). No Petitions to Intervene were opposed by DESC. The South Carolina Office of Regulatory Staff ("ORS") is automatically a party pursuant to S.C. Code Ann. § 58-4-10(B).

## **III. PREHEARING MATTERS**

On April 22, 2021, DESC filed its Application. On May 12, 2021, DCA filed a motion requesting that the Commission review the sufficiency of the Application, arguing

that the Company's failure to include "the standard offer, avoided cost methodologies, form contract PPAs, commitment to sell forms, and other appropriate terms and conditions" in its initial filing rendered the Application insufficient. DCA Motion to Review filed May 12, 2021, at 3. DCA argued that DESC's proposal to provide the missing information in its direct testimony, due over two months after the Application was filed, would greatly prejudice the parties. *Id.* at 4. On May 18, 2021, CCL/SACE and CCEBA filed letters in support of DCA's motion. The Commission granted DCA's motion and required DESC to file an Amended Application by June 7, 2021. Order No. 2021-384. DESC filed an Amended Application on June 7, 2021, and then, without prior notice, a Second Amended Application on June 25, 2021.

Initially, by notice dated April 30, 2021, the Clerk's Office of the Commission, set deadlines for DESC direct testimony on June 29, 2021, intervenor direct testimony on July 13, 2021, rebuttal testimony on July 27, 2021, and surrebuttal testimony on August 10, 2021. On July 21, 2021, the Commission granted CCEBA's motion for an extension of time and issued revised deadlines for intervenor direct testimony on July 27, 2021, rebuttal testimony on August 10, 2021, and surrebuttal testimony on August 16, 2021. Order No. 2021-504.

S.C. Code Ann. § 58-41-20(I) permits the Commission to retain an independent consultant to review a utility's avoided cost application. Pursuant to Order No. 2021-231, the Commission issued requests for proposals for an independent consultant on May 24, 2021, and June 16, 2021. The Commission ultimately secured the consulting services of London Economics International, LLC ("LEI") and set the scope of work and related deadlines on July 29, 2021. Order No. 2021-520. LEI was instructed to submit a report to

the Commission by September 16, 2021, based on the Company's application, the filings in the docket, and the evidentiary hearing.

#### **IV. HEARING**

The Commission convened a virtual hearing on this matter from August 18, 19, 20, 23, 24 and 25, 2021, with the Honorable Justin T. Williams, Chairman, presiding. DESC was represented by K. Chad Burgess, Esquire, Matthew W. Gissendanner, Esquire, Mitchell Willoughby, Esquire, and Tracey Green, Esquire. JDA was represented by Weston Adams, III, Esquire, and Courtney E. Walsh, Esquire. DCA was represented by Connor J. Parker, Esquire, and Roger P. Hall, Esquire. CCEBA was represented by Richard L. Whitt, Esquire, and John D. Burns, Esquire. PGR was represented by Richard L. Whitt, Esquire, and J. Blanding Holman, Esquire. CCL and SACE were represented by Kate Mixson, Esquire, and Emma Clancy, Esquire. ORS was represented by Alexander W. Knowles, Esquire, and Christopher M. Huber, Esquire.

At the virtual hearing, DESC presented the direct and rebuttal testimony of Allen W. Rooks, Daniel F. Kassis, James W. Neely, Eric H. Bell, John E. Folsom Jr., and Peter David, and the rebuttal testimony of Thomas E. Hanzlik. CCEBA presented the direct and surrebuttal testimony of Edward Burgess and Steven J. Levitas. CCL/SACE presented the direct and surrebuttal testimony of Kenneth Sercy. ORS presented the direct and surrebuttal testimony of O'Neil O. Morgan and Brian Horii.

Pursuant to Order 2021-565, the Commission and the parties reconvened for a virtual hearing on October 11, 12, and, 13, 2021, with the Honorable Florence P. Belser, Vice Chair, presiding. Mr. Johnathon Arthur Goulding presented the report prepared by LEI, and was subject to cross-examination and questions from the commissioners. DESC

presented the responsive testimony of Daniel F. Kassis, James W. Neely, Eric H. Bell, and Peter David. CCEBA presented supplemental and responsive testimony of Edward Burgess. CCL/SACE presented the responsive testimony of Kenneth Sercy.

## **V. STATUTORY STANDARDS**

### **A. Background on PURPA and Act 62**

#### *Overview of PURPA*

Act 62 requires Commission decisions in avoided cost dockets to be consistent with PURPA, and the Federal Energy Regulatory Commission's implementing regulations and orders. S.C. Code Ann. § 58-41-20(A). Section 210 of PURPA and the regulations promulgated pursuant thereto establish the responsibilities of FERC and state regulatory authorities to encourage the development of cogeneration and small power production facilities. In particular, PURPA requires that utilities purchase available electric energy from cogeneration and small power production facilities that meet the criteria to become a "qualifying facility" ("QF"). 16 U.S.C. § 824a-3(a), (d). Section 210 specifies that electric utilities are required to compensate QFs for that energy at rates that are just and reasonable to the ratepayers of the utility, in the public interest, and that are non-discriminatory to QFs. 16 U.S.C. § 824a-3(b). Avoided cost rates are intended to reflect the cost that the purchasing utility can avoid as a result of obtaining energy and capacity from these sources, rather than generating an equivalent amount of energy itself or purchasing the energy or capacity from other suppliers.

PURPA's overall effect is to enable competition in energy production, by encouraging independently produced renewable energy for the benefit of consumers. *See Kamine/Besicorp Allegany L.P.*, 908 F. Supp. 1180, 1192 (W.D.N.Y. 1995) ("effect of

PURPA is to *introduce new energy producers into the marketplace*” and stating that if “traditional utilities were successful in excluding [QFs],” that could “reduce *competition*”) (emphasis added)); *American Paper Inst. v. Am. Elec. Power Serv. Corp.*, 461 US 402, 405 (1983). In enacting PURPA, “Congress believed that increased use [of renewable energy] would reduce the demand for traditional fossil fuels” and it recognized that electric utilities have traditionally been “*reluctant* to purchase power from, and to sell power to, the nontraditional facilities.” *FERC v. Mississippi*, 456 U.S. 742, 750 (1982) (emphasis added). FERC delegated the implementation of these rules to state regulatory authorities, and as such, the Commission is bound to comply with PURPA’s minimum requirements.

#### *Requirements of Act 62*

Act 62 further informs the Commission’s review of renewable energy issues and the standards applicable in avoided cost proceedings. At the outset, Act 62 directs the Commission

to address all renewable energy issues in a fair and balanced manner, considering the costs and benefits to all customers of all programs and tariffs that relate to renewable energy and energy storage, both as part of the utility’s power system and as direct investments by customers for their own energy needs and renewable goals.

S.C. Code Ann. § 58-41-05. The Commission also is directed to ensure that the “revenue recovery, cost allocation, and rate design of utilities that it regulates...properly reflect changes in the industry as a whole, the benefits of customer renewable energy... as well as any utility or state specific impacts unique to South Carolina which are brought about by the consequences of this act.” *Id.*

Pursuant to the S.C. Code Ann. § 58-41-20, the Commission must, at least once every twenty-four months, approve each electrical utility’s standard offer, avoided cost



methodologies, form contract power purchase agreements, commitment to sell forms, and any other terms or conditions necessary to implement the EFA. S.C. Code Ann. § 58-41-20(A). S.C. Code Ann. § 58-41-20(I) permits the Commission to “engage, for each utility, a qualified independent third party to submit a report that includes the third party’s independently derived conclusions as to that third party’s opinion of each utility’s calculation of avoided costs for purposes of proceedings conducted pursuant to this section.”

Any decision by the Commission in avoided cost proceedings “shall be just and reasonable to the ratepayers of the electrical utility, in the public interest, consistent with PURPA and the Federal Energy Regulatory Commission’s implementing regulations and order, and nondiscriminatory to small power producers; and shall strive to reduce the risk placed on the using and consuming public.” S.C. Code Ann. § 58-41-20(A). Further, the Commission “shall treat small power producers on a fair and equal footing with electrical utility-owned resources” by ensuring that “rates for the purchase of energy and capacity *fully and accurately* reflect the electrical utility’s avoided costs” S.C. Code Ann. § 58-41-20(B)(1) (emphasis added). Power purchase agreements, including terms and conditions, must be “commercially reasonable” and consistent with PURPA, and each electrical utility’s avoided cost methodology must “fairly account[]” for costs avoided or incurred “including, but not limited to energy, capacity, and ancillary services” for small power producers, including “those utilizing energy storage equipment.” S.C. Code Ann. § (B)(2),(3).

Lastly, Act 62 requires a level of transparency at the outset of avoided cost proceedings. Specifically, “[e]ach electrical utility’s avoided cost *filing* must be

sufficiently transparent so that underlying assumptions, data, and results can be independently *reviewed* and *verified* by the parties and the commission.” S.C. Code Ann. § 58-41-20(J) (emphasis added). This requirement facilitates timely independent review in proceedings that often present complex, technical issues but must also be completed within Act 62’s biennial deadlines.

## **B. Standard of Review**

The Commission has a duty to fully document its findings and base its decisions on reliable, probative, and substantial evidence on the whole record. *Porter v. S.C. Public Service Com’n*, 333 S.C. 12, 21 (1998). Accordingly, in this matter the Commission exercises a searching review of the utility’s proposed avoided cost rates, with an eye towards furthering the goals of the EFA and PURPA in a manner that “fully and accurately” reflects avoided costs while minimizing risk to ratepayers and total costs of service.

The Commission must make findings which are “sufficiently detailed to enable [a] court to determine whether those findings are supported by the evidence and whether the law has been applied properly to those findings.” *Id.* Where material facts are in dispute, the Commission must make “specific, express findings of fact.” *Id.* Further, where non-utility parties make a showing that raises the specter of imprudence presumptive as to the reasonableness of a utility’s proposed rate, the utility bears the burden of production and ultimately of persuasion to further substantiate its position. *See Utility Services of South Carolina, Inc. v S.C. Office of Reg. Staff*, 392 S.C. 96, 109–10 (2011).

## **VI. FINDINGS OF FACT**

### **A. Avoided Energy Rates**

1. QFs will be more accurately compensated under the time-of-use approach of the technology neutral rate<sup>1</sup> (referred to as the “non-solar” rate by DESC). A rate that compensates QFs based on the specific hours they generate is better able to capture the different production profiles of individual solar QFs compared to a rate that is based on a single production profile, even if the latter rate is based on a composite of many solar profiles. Accordingly, standalone solar QFs should be eligible for the PR-Standard Offer technology neutral avoided energy rate.
2. Because avoided energy rates are based on the cost the *utility* avoids by bringing on their generation, by definition, they are not impacted by a QF’s particular technology. The technology neutral rate already accounts for the existing solar on DESC’s system by modeling that solar as part of both the base and change cases in the PLEXOS avoided energy cost simulations and the approved variable integration charge (“VIC”) will capture the impacts of solar variability.
3. The Commission finds the proposed pricing periods under DESC’s PR-Standard Offer rate to be generally aligned with hourly system costs, and thus reasonable for the purposes of this proceeding. In

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<sup>1</sup> DESC’s application and witnesses refer to “solar” and “non-solar” avoided energy and capacity rates in their testimony, and this Order retains that terminology when summarizing DESC’s rate proposals. However, because the Commission ultimately concludes that solar QFs should be eligible for the proposed “non-solar” rates, this Order generally uses the term “technology-neutral” to refer to DESC’s proposed “non-solar” rates.

addition, ORS Witness Brian Horii and LEI found the results of DESC's pricing periods to be reasonable and no party has proposed alternate pricing periods for the PR-Standard Offer rate in this proceeding.

4. However, the absence of methodological support for DESC's pricing periods raises concerns relating to the accuracy and objectivity of DESC's approach. As a result, it is reasonable to require DESC to adopt the data-driven approach recommended in CCL/SACE Witness Kenneth Sercy's surrebuttal testimony when developing pricing periods for future avoided cost proceedings. Without this requirement, the Commission is concerned that DESC will continue to present pricing periods in a manner that eludes substantive review and verification as contemplated under S.C. Code Ann. 58-41-20(J).
5. The Commission finds DESC's natural gas price forecasting methodology to be unreasonable for purposes of calculating the Company's avoided energy rates. DESC's approach, which applies the EIA escalation rate to short-term NYMEX prices, inappropriately carries short term fluctuations in gas prices all the way through the entire forecast to year ten. Because QFs will be bound to the PR-Standard Offer rate set in this proceeding for a period of ten years, the Commission recognizes the importance of ensuring accuracy over the long- term horizon in avoided cost

proceedings. The Commission finds that the blended forecast proposed by CCL/SACE Witness Sercy better accounts for long-term supply and demand trends and should be adopted.

6. The natural gas price forecast is one of the most significant inputs used to calculate the avoided energy rates. Accordingly, avoided energy rates such as those proposed by DESC, that rely on an unreliable and flawed methodology to forecast natural gas prices cannot “fully and accurately reflect the electrical utility’s avoided costs,” as required by S.C. Code Ann. § 58-41-20(B)(1). It is reasonable to require the Company to re-run the PLEXOS modeling and re-calculate avoided energy rates using the blended forecast methodology set out in Witness Sercy’s testimony. In addition, given the significant rise in NYMEX futures prices over the summer and fall of this year, DESC must incorporate the latest updated NYMEX prices in its final avoided energy rates.

**B. Avoided Capacity Rates**

7. It was unreasonable of DESC to use a 100MW capacity change in its avoided capacity calculations when its assumed size of a new generating unit was 66MW. The mismatch under DESC’s current approach results in an underestimation of capacity value. It is therefore reasonable to require DESC to use 66MW as the assumed capacity change in the change case to match the assumed size of a new CT generating unit.

8. Applying a Performance Adjustment Factor (“PAF”) of 1.05 to the final \$/kW-year capital cost value used to develop the avoided capacity rates is necessary to put QFs on equal footing with utility-owned resources. Under DESC’s proposed avoided capacity rates, DESC’s utility-owned resources are compensated for periods of unavailability while QFs are not.
9. A PAF of 1.05 is appropriate in this proceeding, as it is based on the outage rates of the peaking plants used by DESC in its avoided capacity rates. For subsequent proceedings, DESC may develop a PAF developed from the availability factors of its own fleet.
10. DESC used unreasonable combustion turbine capital cost assumptions, based on unverifiable vendor data, in its avoided capacity calculations. To ensure its capital cost and O&M assumptions accurately and fully reflect avoided costs, DESC must revise its cost assumptions using EIA data. Moreover, for future avoided capacity calculations, the Commission finds respected public data sources such as the EIA to be more a reliable and transparent source than non-public vendor data.
11. DESC’s proposed avoided capacity rate for solar-only QFs—an effective load carrying capacity (“ELCC”) of 5%—is not supported by the record. In particular, DESC’s presentation of its ELCC results without supporting calculations prevented independent review and verification by intervenors and the Commission. Should DESC

continue to use the SAS program to calculate ELCC in future proceedings, it must present the intermediate outputs, equations, and inputs in a standard report to facilitate review and demonstrate the reasonableness of its ELCC results.

12. Based on the limited ELCC data that was available for evaluation in this proceeding, it appears that DESC did not employ best practices, such as evaluating large datasets and using rigorous ELCC methodologies, when calculating its proposed ELCC.
13. It is reasonable for solar-only QFs to be eligible for the PR-Standard Offer technology neutral capacity rate. As with avoided energy rates, technology neutrality provides clear price signals and appropriately reflects costs that are avoided from a utility's perspective. Further, it is appropriate in this proceeding to make a technology neutral rate available to solar QFs given the lack of support provided for DESC's ELCC calculation.
14. DESC's proposal to allocate 100% of capacity value to winter morning is not supported by the record. To the contrary, the evidence presented indicates that DESC's system continues to have summer capacity needs, even after accounting for existing solar on the system. In addition, and as demonstrated in DESC's own modeling, the Commission-approved plans to retire Wateree and Williams will create a capacity need in the winter and summer months within the next ten years.

15. DESC's unsubstantiated assertions that there is no summer capacity need because of the solar already on its system and higher winter reserve margin bear no weight without a detailed and transparent analysis supporting its proposed seasonal and hourly capacity allocation. Providing data for only winter months demonstrates nothing about how capacity should be allocated across different seasons.
16. The Commission finds the seasonal allocation proposal in CCL/SACE Witness Kenneth Sercy's direct testimony to be the most reasonable approach on the record. As detailed in his testimony, Witness Sercy provided data-driven support for his proposal based on the five most recent years of public, historical hourly load data and employed a conservative approach with respect to shoulder months.

**C. Transparency**

17. DESC's avoided cost applications and testimony omitted basic assumptions and underlying data to such an extent that they inhibited independent review and verification by the parties and Commission. In future avoided cost applications, it is reasonable to require DESC to include major production cost model inputs, details relating to its pricing period development and ELCC calculation, and the basis of its seasonal capacity allocation and hours for capacity payments.



18. Because the Commission may not propound discovery, the Commission relies on the utility to present underlying assumptions, data, and results in a manner that facilitates independent review and verification. Moreover, it wastes valuable time and resources when intervenors must rely on discovery to obtain basic data rather than to gain a more thorough understanding of the many complex, technical issues presented in avoided cost proceedings.

**D. Reducing Risk to Ratepayers**

19. In setting avoided cost rates, there is a range of risks to balance. The risk of setting avoided costs too high harms ratepayers by passing costs to them that are not avoided. Conversely, setting avoided costs too low risks discouraging QF development that may otherwise have insulated ratepayers from the price impacts of a fluctuating market. The possibility of underprocurement if rates are set too low also risks eroding an independent energy market against which utility costs and services may be benchmarked.

**E. PURPA's Role in Renewable and Solar Development**

20. The Commission finds that ratepayers benefit from a robust competitive market, which otherwise would not exist in the case of DESC, a vertically integrated utility that is not part of a wholesale energy market. As such, PURPA and its requirements continue to benefit ratepayers even though PURPA is not the only means through which DESC may add renewables to its system.

## **VII. EVIDENCE AND COMMISSION CONCLUSIONS**

### **A. Avoided Energy Costs**

The evidence in support of these findings of fact is found in the testimony and exhibits in this Docket and the entire record in this proceeding.

#### Summary of Evidence

##### *Proposed Avoided Energy Rates*

DESC uses the Difference in Revenue Requirements (“DRR”) methodology to calculate the energy and capacity components of avoided cost. This methodology compares a “base” and “change” case. The base case is defined by DESC’s existing and future fleet of generators, including the solar facilities with which DESC has entered into a power purchase agreement, and the hourly load profile those generators will serve; the change case is identical except that it assumes “that a zero-cost purchase transaction modeled after the appropriate 100 MW energy profile is assumed.” (Tr. Vol. 2 at 46.6:3-14.)

To calculate its avoided energy rates, DESC uses the PLEXOS software, which models the commitment and dispatch of generating units to serve load hour-by-hour. DESC runs the base and change case in PLEXOS to estimate the production costs and benefits resulting from the zero-cost purchase transaction; avoided energy costs are then derived based on the cost differential between the two cases. (Tr. Vol. 2 at 46.6:15-21.) Because PLEXOS is a complex modeling software with thousands of data inputs, the cost results that PLEXOS produces are only reliable to the extent the inputs are reasonable and accurate. (Tr. Vol. 4 at 60.6:19–60.7:2.) The Company’s avoided energy costs are calculated using a short- and long-term period; the short-term period is one year from May

2021 through April 2022, while the long-term period is from calendar years 2022 through 2031 and is divided into two five-year periods. (Tr. Vol. 2 at 46.7:9-16.) DESC proposes five separate avoided energy rates for the Commission's approval:

- Under the PR-1 rate, available to QFs less than or equal to 100kw for one year, DESC proposes a separate rate for solar and non-solar QFs. (Tr. Vol. 2 at 46.4, 46.17.) DESC proposes four pricing periods under the PR-1 rate for non-solar QFs and a single hourly rate for solar QFs. (Tr. Vol. 2 at 46.17.)
- Under the PR-Standard Offer rate, available to QFs less than or equal to 2MW for a ten-year term from 2022–2031, DESC proposes a separate rate for solar and non-solar QFs. DESC proposes eleven pricing periods under the PR-Standard Offer rate for non-solar QFS and a single hourly rate for solar QFs. (Tr. Vol. 2 at 46.4, 46.12–46.13.)
- Under the PR-Form PPA, QFs greater than 2MW and less than or equal to 80MW may negotiate with DESC using the methodology consistent with that which is approved in this proceeding. (Tr. Vol. 2 at 46.4, 46.18.)

DESC states that the pricing periods, or “time of production” periods, under the PR-1 and PR-Standard Offer rate were derived using the Company's hourly marginal costs and are intended to “reward the generator with higher revenue for generation produced in times with higher value on the DESC system.” (Tr. Vol. 2 at 174.33-35.)

#### *Avoided Energy Rate for Solar QFs*

DESC Witness Bell testified in support of the Company's proposal to offer a solar-specific rate under the PR-Standard Offer, stating that this approach was necessary to account for solar's “operational limitations, including intermittency and dependency on

uncontrollable factors such as cloud cover as well as the position of the sun and the time of the day.” (Tr. Vol. 2 at 174.31:18-21.) Witness Bell stated that the value of solar decreases as more is added to the system, because solar cannot be reduced or curtailed and firm generation must be kept online to account for periods when solar is not generating. (Tr. Vol. 2 at 174.32:20–33:8.) According to Witness Bell, because solar QFs are non-dispatchable resources, offering one price for solar throughout the day is appropriate and narrower pricing periods would not result in more accurate compensation. (Tr. Vol. 3 at 14:5-19, 16:14-18.)

To derive the proposed hourly rate for solar QFs, DESC used a solar generation profile within its production cost model. (Tr. Vol. 2 at 174.33:5-8.) ORS Witness Brian Horii found DESC’s approach to be reasonable, though he acknowledged that solar generators’ output patterns would deviate some from DESC’s modeling. (Tr. Vol. 6 at 32.11:13-14.) Witness Horii stated that using a single solar energy rate would avoid potentially overcompensating solar QFs, which he viewed as a risk under the pricing periods. (Tr. Vol. 6 at 32.15:1-16.)

CCL/SACE Witness Sercy questioned DESC’s proposal to use a solar-specific rate rather than a technology neutral rate. Under DESC’s proposed solar rate, solar QFs would be paid a flat energy rate for all energy produced during a given year, regardless of the solar technology used, the seasonal or hourly timing of the QF’s energy production, or how well a QF is aligned with DESC’s assumed solar generation profile. (Tr. Vol. 4 at 60.12:20-13.2.) Witness Sercy instead recommended that solar QFs be made eligible for the PR-Standard Offer non-solar rate (i.e. making that rate “technology neutral”), consistent with the Commission’s orders in the DESC and Duke Energy’s 2019 avoided cost proceedings.

(Tr. Vol. 4 at 53:8-14.) Witness Sercy noted that under a technology neutral rate, “whenever the QF is generating, the prices and the rates are set so that the QF is being paid an appropriate amount based on the system avoided costs.” (Tr. Vol. 4 at 110:4-21.) For example, a solar QF would only ever be compensated for daytime hours. *Id.* In response to DESC’s claims that a solar-only rate is needed due to the amount of solar on DESC’s system, Witness Sercy noted that the modeling DESC used to develop the technology neutral rate already accounts for the existing solar on DESC’s system; further, DESC is also proposing a VIC to capture the impacts of solar variability. (Tr. Vol. 4 at 53:15-22.)

On rebuttal, Witness Neely testified that the single solar profile used by the Company to develop the solar-specific rate was appropriate because it was developed using twenty single axis systems that were representative of systems currently operating in DESC territory. (Tr. Vol. 2 at 50.10–50.13.) Witness Neely did note the Company’s proposed approach could potentially “overstate the benefit” of any one system “by removing...solar system variability and giving location diversity benefit to every system.” (Tr. Vol. 2 at 50.11:1-4.) At the hearing, however, Witness Neely agreed that “the technology-neutral rate [is] designed to compensate QFs based on the actual hours they are producing” and based on “company’s...marginal prices.” (Tr. Vol. 2 at 80:1-3.)

At the hearing and in surrebuttal, Witness Sercy reiterated that a technology neutral rate, unlike DESC’s solar-specific rate, would compensate QFs based on individual factors such as location, design, and technology type, all of which “impact how a solar QF generates and when.” (Tr. Vol. 4 at 114:9-23.) Witness Sercy again noted that the 900 MW of solar already on DESC’s system and “the impact that it has on prices on the system [] is already baked into the technology neutral rate.” (Tr. Vol. 4 at 113:16-25.)

In its report LEI likewise recommended that DESC use a single technology neutral energy rate. LEI explained in support that “[a]voided cost pricing calculations should be based on utility costs,” not the technology receiving the rate, and that “whether or not a QF is flexible is not a factor in determining the *utility’s* costs in a particular hour.” (Hearing Ex. 13 at 48.)

#### *Long-Term Gas Price Forecast*

Based on information obtained through discovery, CCL/SACE Witness Sercy testified that the long-term gas price forecast DESC used to calculate avoided energy rates was unreliable and produced inaccurate PR-Standard Offer rates. DESC developed its long-term gas price forecast using three years of NYMEX natural gas futures prices, and thereafter escalating the annual price by 3.959 based on the US Energy Information Administration (“EIA”) Annual Energy Outlook (“AEO”) reference case gas price forecast. (Tr. Vol. 4 at 60.7:17–60.8:19.) Notably, the Commission rejected this same approach in DESC’s Integrated Resource Plan (“IRP”) proceeding in Order 2020-832, in part because the gas prices produced under this methodology were too low, and required DESC to directly use the EIA AEO reference case. *Id.* Witness Sercy recommended that DESC be required to use the same Commission-approved methodology to calculate avoided costs, as “the IRP and avoided cost proceeding are closely linked, and there is no valid rationale to have different natural gas forecasts for the different proceedings.” (Tr. Vol. 4 at 48:2-5, 60.8:4-7.)

Consistent with that approach, Witness Sercy developed an alternative “blended forecast” using short time NYMEX data and the long-term EIA reference case; this approach appropriately “balance[s] [] short-term futures market indicators and long-term

gas supply and demand dynamics.” (Tr. Vol. 4 at 60.8:8-19.) More specifically, Witness Sercy’s blended approach uses NYMEX futures prices in year one, in year two, the midpoint between the NYMEX price and the AEO price, and AEO prices for year three and beyond. *Id.* The gas prices DESC used in its proposed avoided energy rates are on average 12% lower than the prices under Witness Sercy’s recommended blended forecast. (*Id.*; *see also* Tr. Vol. 2 at 66:6-10.)

In rebuttal, DESC Witness Neely defended DESC’s approach to forecast gas prices by stating that “for calculating avoided costs, it is necessary to derive the most accurate projection that can be ascertained at the time the costs are calculated.” (Tr. Vol. 2 at 50.5:10-12.) Witness Neely stated that the EIA reference forecast used by Witness Sercy is only updated once a year, whereas NYMEX prices are updated more frequently. (Tr. Vol. 2 at 52:19-20, 53:6-8, 53:16-20, 59:23–60:15.) Witness Neely acknowledged that “because Dominion’s approach uses that short-term data and then forecasts it outward... any short-term pricing anomalies that were in that set of data would then be reflected in the company’s long-term natural gas forecast.” (Tr. Vol. 2 at 62:14-20, 63:4-7.) He also agreed that the EIA reference case prices in Witness Sercy’s forecast “are intended to reflect longer term pricing trends.” (Tr. Vol. 2 at 62:14-20, 63:4-7.)

In surrebuttal and at the hearing, Witness Sercy further explained why DESC’s approach produced such unreliable rates, noting that the “fluctuations in gas prices over the course of months end up getting carried through the entire forecast all the way to Year 10.” (Tr. Vol. 4 at 120:23–121:1.) As a result, “[i]f it’s a mild spring or a mild summer, that [] might push gas prices down. And Dominion’s methodology...carries that short-term effect all the way through the entire forecast” even though “what’s happening with the

weather in [] '21 does not fundamentally affect the Year 10 gas prices.” (Tr. Vol. 4 at 121:3-16.) In contrast, a forecast such as Witness Sercy’s that relies on the EIA reference case, incorporates “long-term fundamental driving forces of the prices, [] which are the supply and demand forces” and “ensures that you’re not carrying forward these short-term blips in natural gas in a long-term forecast.” (Tr. Vol. 4 at 121:16-24.)

Witness Sercy testified that the gas forecast, which is used to develop the ten-year PR-Standard Offer rate, has a significant impact on avoided cost rates due to the fact that “[a] lot of the marginal generation...that’s being avoided is gas-fired generation. And the cost of the gas itself is [] most of the cost of [] that avoided energy.” (Tr. Vol. 4 at 122:6-12, 133:19–143:15.) DESC Witness Neely acknowledged that gas prices were “one of the more important inputs” affecting the company’s avoided energy costs. (Tr. Vol. 2 at 52:6-11.) ORS Witness Horii also agreed that gas prices were a significant input to avoided energy rates. (Tr. Vol. 6 at 66:6-9.)

When conducting its own analysis, LEI used a similar approach as Witness Sercy, but nevertheless found DESC’s approach to be “within a reasonable range of potential outcomes.” (Hearing Ex. 13 at 43.) LEI Witness Goulding testified that one reason to apply the escalation rate as DESC does under its approach is to avoid a big jump, or “step-change,” between the futures and long-term costs; when there is not a step change, LEI has applied the EIA reference case to develop long-term forecasts. (Tr. Vol. 7 at 144:13–145:20.) Witness Goulding agreed that another way to avoid that step change is to use the blended approach that Witness Sercy recommends. (Tr. Vol. 7 at 146:16-21.) Witness Goulding also acknowledged that, when looking at the graph on page 42 of the LEI report, Witness Sercy’s forecast most closely tracked the EIA reference case. (Tr. Vol. 7 at 139:11-



16.) In addition, though LEI found that DESC's forecast fell within a "reasonable range of outcomes" because it fell between the high and the low EIA cases, Witness Goulding recognized that that range encompassed a "quite a [] wide range of prices" and that DESC's forecast most closely tracked the low EIA reference case. (Tr. Vol. 7 at 138:15–139:6.)

Witness Sercy submitted responsive testimony reiterating how deeply dependent DESC's methodology is on the particular NYMEX price samples used, and specifically the 2023 prices. (Responsive Testimony of Kenneth Sercy at 2 (Oct. 8, 2021).) To illustrate this point, Witness Sercy noted that since DESC sampled NYMEX gas futures prices earlier this year, those prices have risen dramatically, with 2022 futures rising by 55% and 2023 futures rising by 31%; as a result, DESC's methodology applied to the most recent NYMEX prices would result in higher gas prices than under Witness Sercy's blended forecast. (Responsive Testimony of Kenneth Sercy at 3 (Oct. 8, 2021).)

Because of these significant price increases, Witness Sercy provided an additional recommendation that the Commission require DESC to incorporate recent NYMEX prices in its final avoided energy rates. (Responsive Testimony of Kenneth Sercy at 4 (Oct. 8, 2021).) He explained that, though recent price changes would have implications under either his or DESC's approach, incorporating the updated prices is most significant under DESC's proposed methodology because changes to the 2023 NYMEX futures price input have the effect of significantly changing the forecasted prices in years 2024-2031. (Responsive Testimony of Kenneth Sercy at 4–5 (Oct. 8, 2021).) Therefore, in the event the Commission did accept DESC's approach, he recommended requiring DESC to re-sample the NYMEX futures prices to ensure that its forecast "better represents the expected gas prices at the time of the avoided cost calculation because it is created based on current

factors.” (Responsive Testimony of Kenneth Sercy at 5 (Oct. 8, 2021) (quoting Witness Neely’s testimony summarized in the LEI Report at page 41).)

When asked whether the Commission should require DESC’s avoided energy rates to incorporate the latest NYMEX prices, LEI Witness Goulding stated that, “given the magnitude of the change,” prices probably should be recalculated. (Tr. Vol. 7 at 149:3-20). Witness Goulding also agreed that recent changes in gas prices highlight one of the advantages of contracting for renewables, like solar, that provide a fuel hedge. (Tr. Vol. 7 at 143:11-18). With respect to the Commission’s prior directive, Witness Goulding understood “the view that, [] what you use in the IRP is something that you would use for the avoided costs,” but noted that conditions at the time of forecast may influence the approach in each proceeding. (Tr. Vol. 7 at 147:5-16.) Relatedly, Witness Goulding highlighted that under both DESC’s and Witness Sercy’s forecast, the forecast will be “driven by the circumstances at the time that you do the forecast,” but agreed that the “EIA reference case does take into account long-term trends...even though that’s [] obviously [] affected by what’s going on at the time.” (Tr. Vol. 7 at 140:13-15, 141:19-25.)

#### *Pricing Periods*

Under the PR-1 rate for non-solar QFs DESC proposes four rate time periods, while under the PR-Standard Offer rate for non-solar QFs the Company proposes eleven rate time periods. (Tr. Vol. 2 at 46.12, 46.17.) The pricing periods, also referred to as “time of production” periods, are based on the Company’s hourly marginal costs, and are intended to incentivize generators “to deliver to the system in higher value hours.” Tr. Vol. 2 at 174.34-35.) “Logical groupings of hours of the day and season by marginal cost value

produced 11 time periods for PR-Standard Offer non-solar, which was simplified to four time periods for the PR-1 non-solar.” (Tr. Vol. 2 at 174.35:10-12.)

ORS Witness Horii recommended adjustments to the four pricing periods under the PR-1 rate to “better align with the underlying costs.” (Tr. Vol. 6 at 27:23–28:2.) In support of that recommendation, Witness Horii noted that his revisions reduced the deviations between the hourly average cost in the pricing period and each hourly cost in those periods, explaining that “[t]he smaller the total absolute value deviations over all hours of the year, the more accurate the average costs in the TOU period.” (Tr. Vol. 6 at 32.14 n. 3, 54:6-9.) In rebuttal, the Company stated that it did not oppose Witness Horii’s recommended changes to the PR-1 Rate. (Tr. Vol. 2 at 181.20:4-6.)

CCL/SACE Witness Sercy focused his critique on the eleven pricing periods proposed under the PR-Standard Offer rate. He first noted that DESC’s filings did not make clear how the proposed pricing periods align with system costs and observed that Witness Bell had not presented the analysis DESC conducted to produce “logical grouping[s]” of hours of the day and season. (Tr. Vol. 4 at 60.11.) Witness Sercy found this absence of information in DESC’s filing and testimony especially concerning given the Commission’s explicit directive in 2019 for DESC to provide additional justification for its pricing periods in future filings. (Tr. Vol. 4 at 60.10.) Witness Sercy next testified that DESC seemed to view a heat map provided in discovery as adequate justification but observed that the coloration scheme in the heat map was inconsistent; for instance, a price of \$32.45 was colored red in one place while a price of \$32.53 was colored light green in another. (Tr. Vol. 4 at 60.11.) Further, the price projections provided by DESC in discovery did not include corresponding hourly load data or hourly dispatch data, and therefore could not be

verified. (Tr. Vol. 4 at 60.12.) Ultimately, Witness Sercy concluded that DESC proposed pricing periods could be a potentially biasing factor in DESC's proposed energy rates that could be significantly undermining the goal of fully and accurately reflecting the utility's avoided costs. *Id.*

ORS Witness Horii testified that the eleven pricing periods under the PR-Standard Offer were "reasonable" based on his review. (Tr. Vol. 6 at 32.16:13-17.) At the hearing, Witness Horii clarified that he did not analyze potential improvements to the pricing periods because he found the overall seasonal and hourly groupings reasonable and assumed that resources signed up for this rate could control their output. (Tr. Vol. 6 at 58:6-12.) He further noted that his decision not to propose alternate pricing periods did not mean that more accurate pricing periods could not be created. (Tr. Vol. 6 at 61:22-62:5.)

In rebuttal, Witness Bell stated that the heat map "provide[d] a starting point [for] the development of groups that were adjusted in a logical manner for season and hour of date to create a practical and useable rate schedule." (Tr. Vol. 2 at 181.18:2-4.) However, at the hearing, Witness Bell stated that he did not "think" DESC explained any methodology in testimony or filings as to how those "logical" adjustments were made, nor did the Company explain what criteria it considered to "create a practical and useable rate schedule." (Tr. Vol. 2 at 243.) Witness Bell agreed that defining the pricing periods "requir[ed] some subjective decision making" and that DESC made certain assumptions when grouping the hourly data. (Tr. Vol. 2 at 242:4-10.) In addition, though Witness Bell emphasized that the heat map was merely a "starting point" while the average prices in the pricing periods were derived mathematically, he noted that it "definitely helped guide the

time of day that a []curve was higher in one time of day than the other.” (Tr. Vol. 2 at 228:6-9.)

In surrebuttal, Witness Sercy first emphasized that the heat map upon which DESC relied to set its pricing periods did *not* accurately reflect the underlying cost data that, as demonstrated by the fact that DESC’s heat map displayed different colors for essentially the same prices. (Tr. Vol. 4 at 62.5–62.7.) Witness Sercy determined that the discrepancies were due to an error which incorrectly applied conditional formatting to each month separately, rather than to its entire data set. (Tr. Vol. 4 at 62.7–62.8.) As a result, the heat map used to develop DESC pricing periods was internally inconsistent because the Company effectively created twelve separate heat maps—one for each month of the year; this meant DESC’s heat map did not actually reflect variation in price throughout the year. *Id.* At the hearing, DESC Witnesses Bell and Neely insisted that it was appropriate to apply conditional formatting month by month, even though Witness Bell acknowledged that the proposed pricing periods spanned multiple months. (Tr. Vol. 2 at 88, 230:9-15, 237:4-7.)

Second, Witness Sercy noted that neither Witness Bell or Neely provided any substantive justification for the criteria DESC used to group hours and months into pricing period “blocks.” (Tr. Vol. 4 at 62.9–62.10.) Witness Sercy observed that even accepting DESC’s heat map as accurate, the “logical” groupings do not appear to align with the color scheme, which undermines Witness Bell’s assertions that the pricing periods are aligned with system costs and implies that DESC relied on subjective criteria. *Id.* At the hearing, Witness Sercy further emphasized this point, noting that “we’ve gone through the application, discovery, direct testimony, rebuttal testimony, and cross-examination of two

witnesses on this point, and [] they still have not just simply described in a coherent way, how did [they] group together the hours?” (Tr. Vol. 4 at 106:23–107:13)

Third, Witness Sercy evaluated the prices within DESC’s proposed periods and found that the ranges and standard deviations varied considerably; for example, the standard deviation for period 1 is more than three times that of periods 11, and the range for period 5 is around three times that of period 11, indicating that the prices within the periods are not particularly similar and perhaps should not be grouped together. (Tr. Vol. 4 at 62.11.) To produce more accurate and data-driven pricing periods, Witness Sercy recommended that DESC be required to correct the methodology used to develop its heat maps so it is internally consistent and then, after creating candidate pricing periods by visually examining the corrected heat map for areas that are similarly colored, run descriptive statistics to ensure the pricing periods have similar ranges and standard deviations. (Tr. Vol. 4 at 62.10–62.11.) ORS Witness Horii agreed generally that “if the rates—if the periods were designed in a way that did produce those [standard] deviations, that would result in more accurate pricing during those periods” (Tr. Vol. 6 at 63:13-20.)

LEI found DESC’s pricing periods for the PR-Standard Offer rates “a fair fit for the hourly averages price outputs” in PLEXOS and “sufficient for the purposes of this proceeding.” (Hearing Ex. 13 at 46.) Witness Goulding did not express a concern about how DESC developed its pricing periods; but he did agree that an approach where the utility presented the pricing periods, along with the standard deviations and price ranges that drove their development, would provide intervenors more insight into DESC’s pricing period methodology. (Vol. 7 at 157:19–158:9.) Witness Goulding also qualified LEI’s review on this subject, noting that it took a holistic approach and that “if something [was]

reasonably close, even if we th[ought] that the method could be improved upon,” LEI did not recommend redoing those analyses. (Vol. 7 at 159:6-17.)

#### *Alternate Avoided Energy Rates*

During cross-examination, CCL/SACE Witness Sercy was asked whether he had recalculated alternative avoided energy rates using his recommended inputs and revisions to DESC’s methodology. (Tr. Vol. 4 at 77:3-5, 100–102.) Witness Sercy stated he had not recalculated the rates, noting that intervenors in the 2019 proceeding, including the independent consultant hired by the Commission, also critiqued DESC’s inputs and assumptions without calculating alternative avoided energy rates. (Tr. Vol. 4 at 171:23–172:1.) Witness Sercy also testified that DESC is in a unique position to recalculate the rates. (Tr. Vol. 4, 172:25–173:14.) The PLEXOS modeling software that DESC used to calculate avoided cost rates is complex and requires a license to use, making it difficult for intervenors to obtain access and then calculate alternative avoided cost rates; whereas, DESC could update the inputs and re-run the model within probably three days to a week. (Tr. Vol. 4 at 142:13-25, 143:1-15.)

#### Commission Conclusions

Based on the evidence presented, the Commission finds that DESC’s proposed avoided energy rates do not fully and accurately reflect the Company’s avoided costs.

First, with respect to the Company’s decision to propose separate solar and non-solar PR-Standard Offer rates, the Commission is persuaded by the testimony of witnesses Sercy and Goulding that solar QFs should be eligible for the technology neutral (non-solar QF) capacity rate. DESC has not demonstrated that a solar-specific avoided energy rate is necessary or that it would more accurately compensate solar QFs. A technology neutral

rate will provide clearer price signals to QFs and ensure that QFs are compensated based on the costs avoided from the utility's perspective. Accordingly, the Commission adopts the recommendation of Witnesses Sercy and Goulding that DESC make solar QFs eligible for the non-solar PR-Standard Offer energy rates, subject to the required revisions to those rates ordered below.

The Commission also finds persuasive Witness Sercy's testimony regarding the Company's natural gas price forecast. DESC's natural gas price forecast unreasonably carries short-term pricing impacts into the long-term. In contrast, the blended approach recommended by Witness Sercy appropriately balances short-term futures market indicators with persistent supply and demand factors that actually drive long-term prices, resulting in a more reliable forecast for avoided cost purposes. While the LEI Report found DESC's approach to be "within a reasonable range of potential outcomes," LEI's own approach aligned more closely with that of Witness Sercy's. As such, the Commission finds it reasonable to require that DESC remodel its avoided energy rates with revised natural gas pricing assumptions. In particular, DESC is directed to use an approach using NYMEX futures prices in year one, in year two, the midpoint between the NYMEX price and the AEO price, and AEO prices for year three and beyond.

Further, the Commission is concerned that the NYMEX prices used in DESC's initial proposal are now outdated given the significant price fluctuations in the natural gas market recently. The Commission also adopts the recommendation of Witness Sercy, which was supported by Witness Goulding at the hearing, that DESC update its NYMEX prices when revising its modeling for purposes of calculating its avoided energy rates.



Finally, with respect to the Company's eleven proposed pricing periods under its PR-Standard Offer rate, the Commission finds that the evidence in the record is sufficient to find that the Company's proposed pricing periods are reasonable and to adopt them at this time. However, the Commission is concerned with the continued lack of transparency regarding the Company's methodology, particularly given the Commission's previous order, from the 2019 avoided cost filing, directing DESC to provide substantially more information regarding how it developed its pricing periods in this proceeding. Witness Sercy's testimony, at minimum, raises serious questions regarding the objectivity of the Company's approach and what criteria were used by DESC to "logically group" hours and months into pricing periods. Accordingly, the Commission finds it reasonable to order that DESC, in its next avoided cost filing, develop its pricing periods using the objective methodology and criteria outlined in Witness Sercy's surrebuttal testimony. In particular, DESC is directed to develop its pricing periods using a heat map derived from its hourly marginal pricing data, and to which conditional formatting has been applied across the entire heat map, rather than month-by-month. DESC is also ordered to run descriptive statistics for its proposed pricing periods to ensure they have similar ranges and standard deviations and to provide this information in its next avoided cost application.

## **B. Avoided Capacity Rates**

### Summary of Evidence

The evidence in support of these findings of fact is found in the testimony and exhibits in this Docket and the entire record in this proceeding.

### *Proposed Avoided Capacity Rates*

To calculate its avoided capacity rates, the Company used the same DRR methodology as in its avoided energy calculation. The “base” case is based on the incremental capital investment required to support the Company’s resource plan while the “change” case estimates the impact that a purchase from 100 MW facility would have on the resource plan; the avoided capacity cost is the difference between the incremental capacity costs in the base and change case. (Tr. Vol. 2 at 46.7:1-7.) The Company used a ten-year period for this calculation. (Tr. Vol. 2 at 46.7:15-16.)

Under the Company’s proposed avoided capacity rates, non-solar QFs (under both the PR-1 and PR-Standard Offer) would receive capacity payments for energy produced in December, January, and February from 6AM to 9AM.<sup>2</sup> (Tr. Vol. 2 at 46.12, 46.17; Hearing Ex. 7 [Corrected Revised AWR-1, Corrected Revised AWR-5.]) The Company proposes an hourly capacity payment for solar QFs (under both the PR-1 and PR-Standard Offer) based on a 5% effective load carrying capacity (“ELCC”) of the incremental solar on DESC’s system. (Tr. Vol. 2 at 46.10:12-20, 46.15:18–46.16:2.)

#### *66MW Capacity Change*

ORS Witness Horii recommended that the Company use 66MW as the assumed capacity change in the change case to match the assumed size of a new CT generating unit used by DESC in its avoided capacity calculation. (Tr. Vol. 6 at 28:12-16, 32.21:10-20.) Under DESC’s current approach, it models meeting that 100MW change with 66 MW; eliminating this mismatch increases avoided capacity cost by 17%. *Id.* In DESC’s 2019

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<sup>2</sup> Initially the Company included a condition in its proposed avoided capacity rates, that required non-solar QFs to “be fully dispatchable during all of the capacity credit hours” in December, January, and February from 6AM to 9AM to receive *any* capacity payment. However, at the hearing, the Company clarified that this provision was a mistake and deleted it from the revised tariff. (Tr. Vol. 2 at 91:17-92:6; *see also* Hearing Ex. 7 [Corrected Revised AWR-1, Corrected Revised AWR-5].)

avoided cost proceeding, the Commission adopted the same recommendation from ORS to require DESC to match the change case capacity change with the capacity of the modeled new generation. (Tr. Vol. 6 at 32.22:4-11.)

In rebuttal, DESC Witness Neely responded that the Company's use of a 100MW capacity change case was reasonable because it was consistent with the avoided energy calculation and expected that the Company would be required to purchase up to several hundred MW of QFs over the next two years. (Tr. Vol. 2 at 50.3:1-10.) Further, Witness Neely noted that PURPA provides that a utility may use a capacity change of up to 100 MW to calculate avoided costs. *Id.* Though at the hearing Witness Neely clarified that DESC did not *have* to use 100 MW under PURPA. (Tr. Vol. 2 at 125:9-18).

Witness Horii responded that avoided energy and capacity calculations are completely different; where avoided energy looks at "short term operating costs," avoided capacity looks at "long-run capital costs for plant additions." (Tr. Vol. 6 at 34.5:17-23.) Additionally, 100 MW does not match "several hundred MWs" either and PURPA does not mandate the use of 100 MW. (Tr. Vol. 6 at 34.6:5-18.) LEI agreed with Witness Horii, noting that DESC's current approach underestimates the value of capacity, and that correcting the mismatch—either by adjusting the size of the capacity change down to 66 MW, or the size of the generator up to 100 MW—would increase avoided capacity rates by 16.7%.

#### *Performance Adjustment Factor*

CCL/SACE Witness Sercy recommended in his direct testimony that DESC apply a performance adjustment factor ("PAF") multiplier of 1.05 to the final capital cost value used to develop the avoided capacity rates. (Tr. Vol. 4 at 54:18-23.) Under DESC's current

proposed rate, QFs would only receive full capacity payments if they generate during all avoided capacity payment hours. (Tr. Vol. 4 at 60.18:12–19:3.) Whereas, utility-owned resources are not held to the same standard; like all technologies, these assets are subject to forced outages, even during peak periods when system capacity is most needed, but still get full cost recovery. *Id.* Thus, a PAF ensures that QFs, like utility-owned resources, may be unavailable for limited periods of time and access full capacity payments. *Id.* Witness Sercy further noted that the Commission has already approved a 1.05 PAF for the Duke utilities, and that the same multiplier would be appropriate for DESC’s avoided capacity rates. (Tr. Vol. 4 at 54:20–55:2.) The 1.05 PAF is based on a 5% outage assumption for the combustion turbine technology that both Duke and DESC use in their avoided capacity calculations. (Tr. Vol. 4 at 142:3-12.)

In rebuttal, Witness Neely stated that construction costs and fixed O&M are sufficient to estimate avoided capacity value and that a PAF would “artificially inflate[] capacity values.” (Tr. Vol. 2 at 50.16:1-6.) He further stated that the “avoided energy costs calculation is the appropriate place to address the forced outage of the Company’s own resources” and that the Company’s resources are modeled with forced outage rates. (Tr. Vol. 2 at 50.15:15-21.) Witness Neely also suggested in rebuttal that applying a PAF to the avoided capacity calculation as Witness Sercy recommended would “penalize[]” the utility’s own generators. (Tr. Vol. 2 at 50.15:10-15.)

Witness Sercy responded that a PAF—a “minor adjustment to avoided capacity costs”—would allow “a comparable level of unavailability on the part of the QF, while still receiving full capacity payment, just as DESC’s assets receive.” (Tr. Vol. 4 at 62.15:16–62.16:2.) Witness Sercy agreed that forced outage rates should be accounted for in avoided

energy calculations, but noted that availability should also be considered in avoided capacity rates. Lastly, Witness Sercy emphasized that the PAF does not have any impact on DESC-owned generators, and thus, contrary to Witness Neely's suggestion could not penalize DESC-owned generators. Indeed, at the hearing Witness Neely agreed that a PAF "does not have any impact on how the utility recovers costs on its own resources" and clarified that he "may have made a mistake" in his prefiled testimony by suggesting a PAF was a penalty. (Tr. Vol. 2 at 95:5-14.) Witness Neely also acknowledged at the hearing that "as long as a utility and resource was deemed used and useful...the company will get full cost recovery for that unit." (Tr. Vol. 2 at 93:10-14.)

LEI agreed with Witness Sercy's recommendation that a PAF be included in calculating avoided capacity costs "as DESC's resources are compensated for periods of unavailability relevant to this PAF issue, while under the proposed structure QFs would not be compensated." (Hearing Ex. 13 at 35.) LEI emphasized that a PAF was not "artificial inflation," but "an adjustment that leads to a more accurate depiction of the costs for capacity" given the level of expected outages. *Id.* In addition, also like Witness Sercy, LEI recommended applying a PAF of 1.05 in this proceeding. *Id.* LEI Witness Goulding confirmed that the 1.05 number was consistent with outage rates for the reference technology used by both Duke and Dominion in their avoided capacity calculations. (Tr. Vol. 7 at 109:19-110:1.) For subsequent proceedings, LEI recommended that DESC use a PAF developed from availability factors of its own fleet. (Hearing Ex. 13 at 35.)

In responsive testimony, DESC Witness Neely reiterated his arguments that a PAF was not appropriate and further stated that a PAF was unnecessary because LEI was recommending eliminating the solar-only ELCC rate; however, Witness Neely did not

provide any explanation as to how eliminating the ELCC would make the PAF, which approximates *utility* unit outages, unnecessary. (Tr. Vol. 8 at 178:23-25.)

### *Capital Cost Assumptions*

CCL/SACE Witness Sercy testified that DESC used unreasonably low capital cost assumptions in its avoided capacity calculation when compared to public data from the EIA, a respected public industry data source. (Tr. Vol. 4 at 55–56.) Specifically, DESC’s avoided capacity calculations assume a 991\$/kW capital cost for aeroderivative combustion turbine (“aero-CT”) technology, and an \$8.14 \$/kW-year fixed O&M cost, while EIA data indicates a capital cost of 1139\$/kW and fixed O&M of 15.79 \$/kW-year. (Tr. Vol. 4 at 60.20:7-18.) Because DESC’s capital cost assumptions were about 13% lower for capital cost and 48% lower for O&M than EIA data, Witness Sercy testified that DESC avoided capacity rates may not “fully and accurately reflect the electrical utility’s avoided costs. (Tr. Vol. 4 at 60.20:16-18.) Witness Sercy further noted that rejecting DESC assumptions in favor of EIA data would be consistent with the Commission’s order in DESC’s IRP proceeding, which required DESC to use data from another respected public industry data source—the National Renewable Energy Lab’s Annual Technology Baseline (“ATB”)—for its combustion turbine capital cost assumptions. (Tr. Vol. 4 at 60.20:19–60.21:6.)

In rebuttal, DESC Witness Neely testified that the costs used by DESC are based on the Company’s “interactions with turbine vendors,” and that a generic cost is not appropriate when actual vendor data is available. (Tr. Vol. 2 at 50.16:8-16.) However, Witness Neely was aware that the Commission rejected the combustion turbine capital cost assumptions based on vendor data in the company’s initial 2020 IRP and noted that the

Commission “didn’t like the price that we used for the frame CTs because [] it was formed by volume discount. (Tr. Vol. 2 at 103:13-16, 105:2-10.)

In surrebuttal, Witness Sercy testified that respected public data sources, such as the EIA, “are a more reliable and more transparent information sources than non-public vendor statements.” (Tr. Vol. 4 at 62.16:13-20.)

LEI made the same recommendation as Witness Sercy, concluding that EIA’s cost assumptions for an aero-CT addition are the best source for avoided capacity cost calculations. (Hearing Ex. 13 at 33.) In support, LEI noted that the EIA estimates for aero-CTs fall within the range of DESC’s inputs when considering generating capacity. *Id.* DESC Witness Neely submitted responsive testimony on this subject, continuing to assert that the EIA cost information does not accurately reflect DESC’s avoided costs. Witness Neely noted that the Commission recently ordered DESC “to use actual bid data for calculating unit cost” in Order 2021-429, though that Order related to all-source procurement in the context of the Company’s 2020 Modified IRP.

#### *ELCC*

DESC Witness Neely presented the Company’s ELCC proposal in direct testimony. He explained that the 11.8% ELCC approved in the 2019 proceeding was based on 500 MW of solar then existing on the system. (Tr. Vol. 2 at 46.10:12-20.) The ELCC of 5% proposed in this proceeding is based on the 973 MW of existing PPAs that were signed at the time of calculation. *Id.* Witness Neely attributed the lower rate to the fact that more solar had been added to the system since the 2019 rate was calculated. *Id.*

CCL/SACE Witness Sercy testified that though he generally agreed that using ELCC approach for solar capacity accreditation was reasonable, he was unable to conduct

a thorough review of DESC's ELCC calculation; DESC derived its ELCC using the SAS program, which does not record intermediate outputs, rendering it essentially unreviewable. (Tr. Vol. 4 at 57:21-24, 62.23, 92.) Based on the limited information made available in discovery, Witness Sercy also expressed concern that DESC's ELCC approach lacked rigor and failed to incorporate best practices. For example, the datasets provided by DESC "show[ed] that the company used [] two or three years of both solar production data and load for the calculations, whereas your industry standard ELCC calculation would use two or three decades." (Tr. Vol. 4 at 91:14-21). DESC's lack of rigor also concerned Witness Sercy given that a recent study conducted by Lawrence Berkeley National Laboratory ("LBNL") showed DESC's proposed ELCC of 5% was significantly lower than the accreditation values of 15%-30% for peer southeastern utilities with similar solar penetration. (Tr. Vol. 4 at 62.26.)

ORS Witness Horii approved of DESC's use of the ELCC methodology but testified he "didn't do a deep dive into [DESC's] ELCC methodology in this case." (Tr. Vol. 6 at 69:5-6.)

In rebuttal, Witness Neely defended DESC's ELCC calculation, noting that the SAS program used to calculate the ELCC was provided to all intervenors by the Company and that a "ELCC calculation need not be complicated in order to effectively calculate the capacity benefit that solar provides to the DESC system." (Tr. Vol. 2 at 50.17, 50.18:5-8.) Witness Neely further stated that Witness Sercy's comparison between DESC's ELCC and the capacity credits in the LBNL study was inappropriate because the utilities in that study were Florida municipal utilities and different from DESC. (Tr. Vol. 2 at 50.19:6-18.) According to Witness Neely, DESC's 5% ELCC is "very generous since DESC's need for



capacity is based on winter peaks.” (Tr. Vol. 2 at 50.19:4-6.) However, Witness Neely agreed in hypothetical that “an ELCC that was unreasonably low, that would undercompensate solar QFs.” (Tr. Vol. 2 at 113:1-4.)

In surrebuttal, Witness Sercy first reiterated that the Company’s ELCC calculation was not presented in “an accessibly reviewable response that transparently conveys the detailed methodology and intermediate outputs of the ELCC calculation.” (Tr. Vol. 4 at 62.17:1-13.) At the hearing, Witness Sercy added that one “could do an ELCC calculation without SAS,” using other computer programs, but doing that would require having “the equations, the data inputs” in a report. (Tr. Vol. 4 at 97:17-23.) Indeed, Witness Neely agreed during cross-examination that “the SAS program that Dominion provided to intervenors [] doesn’t disclose any intermediate outputs in the ELCC calculation” and that “the company did not provide any [] intermediate outputs that were determined kind of as that program worked to turn the inputs into the outputs” (Tr. Vol. 2 at 108:8-23.)

Second, Witness Sercy responded to Witness Neely’s assertion that ELCC calculations need not be complicated, noting that “rigorous ELCC methodologies using modern analytical techniques and large datasets have been developed and used because they yield more accurate and reliable results.” (Tr. Vol. 4 at 62.18:17-21.) Witness Neely indicated at the hearing that DESC was not opposed to developing a more rigorous methodology in the future. (Tr. Vol. 2 at 116:23–117:3.)

Third, Witness Sercy clarified that his reference to the LBNL study was only intended to serve as “a reference point by which to judge the reasonableness of DESC’s ELCC results.” (Tr. Vol. 4 at 62.18:1-13.) He additionally noted that the municipal utilities in the study serve as a reasonable comparison to DESC given that they serve considerable

loads in the Southeastern region and generate most power themselves, as compared to many municipal utilities that buy most or all of their power wholesale. (*Id.*; Tr. Vol. 4 at 116:24–117:14.)

Because LEI recommended the use of a single avoided capacity rate, it did not view the ELCC issue as relevant. (Hearing Ex. 13 at 36.) Though in the context of transparency, LEI observed that DESC’s presentation of the SAS results was “unusual, and contrasts with the presentation of the detailed loss of load calculations that was submitted in the Duke subsidiaries’ IRP proceeding and referenced in their joint avoided cost application.” (Hearing Ex. 13 at 70.) At the hearing, LEI Witness Goulding further noted that “SAS is a pretty unique program; it’s not something that a lot of intervenors are likely to have access to. It makes it more difficult to replicate the []calculations.” (Tr. Vol. 7 at 135:15-19). He also agreed with Witness Sercy that a “more lengthy discussion of those calculations would be worthwhile” and that, should DESC propose an ELCC in future proceedings, it should present the supporting calculations in a more complete format. (Tr. Vol. 7 at 136:3-12.)

#### *Avoided Capacity Rates for Solar QFs*

Given the lack of support provided for DESC’s ELCC calculation, Witness Sercy recommended that solar QFs be eligible for the technology neutral avoided capacity rates. (Tr. Vol. 4 at 60.27:6-14, 60.31:1-9.) Witness Sercy noted that the Duke utilities currently have Commission-approved technology neutral avoided capacity rates in place. (Tr. Vol. 4 at 60.31:10-14.) Despite DESC’s defense of its ELCC calculation in rebuttal, Witness Sercy continued in surrebuttal to recommend that standalone-solar QFs be eligible for the PR-Standard technology neutral avoided capacity rate. (Tr. Vol. 4 at 62.25:14-15.)

Consistent with Witness Sercy's position, LEI recommended the use of a single avoided capacity rate, as opposed to the ELCC. (Hearing Ex. 13 at 36.) LEI explained that "[t]echnology neutrality avoids having different avoided costs for the same hour, provides clear price signals, and assures value are assigned appropriately when considering costs avoided from a utility's perspective." *Id.*

*Seasonal Capacity Allocation under the Technology Neutral Rate*

CCL/SACE Witness Sercy testified that DESC's proposal to allocate 100% of the capacity value to winter morning hours under the technology neutral capacity rates was unreasonable. Apart from several qualitative statements in testimony and discovery on winter capacity needs, DESC did not provide any basis for the proposed capacity allocation. (Tr. Vol. 4 at 27:21–28:2, 60.) Given that DESC has experienced more summer peaks in the last decade than winter peaks, Witness Sercy found this assumption questionable. (Tr. Vol. 4 at 56:8-12.) Through an analysis of DESC's top 1% of gross loads, Witness Sercy illustrated that far more high-demand hours occur during the summer months of June, July, and August than during the winter months of December, January, and February. (Tr. Vol. 4 at 62:28:2-12.) Further, while the existing solar on the DESC system has pushed the number of high-demand net load hours more towards the winter season, there are still more high-demand hours during the summer than during the winter. (Tr. Vol. 4 at 62:28:12-15.) Witness Sercy added that the ELCC-based solar QF rate and the technology neutral rate assuming no summer capacity value suggest that the Company's approach to resource adequacy is seriously deficient. (Tr. Vol. 4 at 62:31:17-19.)

Using the five most recent years of public, historical hourly load data, Witness Sercy developed an alternative capacity allocation to appropriately account for DESC's summer peaks. (Tr. Vol. 4 at 60.29:9-13.) Specifically, he identified the 1% of net load hours after subtracting 973 MW of solar generation, and used average load values for those top 1% hours to derive a winter allocation of 52% and a summer allocation of 48%. (Tr. Vol. 4 at 60.29:13-16.) Witness Sercy considered this to be a conservative allocation because shoulder season values from months such as March and October were assigned to the winter season, and also because the top 1% net load hours is more heavily weighted towards the summer, with about 69% of top 1% net load hours occurring in the summer months. (Tr. Vol. 4 at 60.30:1-4.) Witness Sercy next used net load hours to develop avoided capacity rates that recognized value in winter hours of 6am to 9am during January and February, and summer hours of 2pm to 8pm during June, July and August. (Tr. Vol. 4 at 60.30:5-8.) Under Witness Sercy's proposed seasonal allocation, a typical single-axis tracking solar PV plant located in the Aiken area would receive about 19% of the possible capacity value as opposed to the 5% ELCC proposed by DESC. (Tr. Vol. 4 at 60.30:14-21.)

DESC Witness Neely testified in rebuttal that the Company had substantiated the reasonableness of its winter capacity allocation and that Witness Sercy's analysis failed to account for reserve margin requirements. (Tr. Vol. 2 at 50.20:13-17.) Because of the 21% reserve margin in winter, as compared to the 14% reserve margin requirement in summer, and the existing summer solar capacity, Witness Neely insisted that additional summer capacity does not avoid any future capacity costs and that the 5% ELCC hourly rate is appropriate. (Tr. Vol. 2 at 50.20:17-21:3.) In addition, Witness Neely critiqued Witness

Sercy's analysis of load data as inaccurate, based on the fact Witness Sercy showed load data in a graph labeled 2017-2019 which included too many data points for that time period. (Tr. Vol. 2 at 50:21:4-11.)

In surrebuttal, Witness Sercy explained the discrepancy, noting that the graph was mislabeled and actually contained 5 years of data. This change had no impact on his original conclusion that DESC's system experiences a large number of high-load hours during summer afternoons, even after accounting for the existing solar on the system. (Tr. Vol. 4 at 62:19:17-24.)

Witness Sercy further responded to Witness Neely that DESC's decision to allocate 100% of capacity to winter "is just not consistent with the data on Dominion's system, and it's not consistent with the company's expansion plan either." (Tr. Vol. 4 at 144:15-21.) Specifically, the expansion plan used by DESC to calculate avoided capacity costs—which accounts for both the differing summer and winter reserve margins and the existing solar on the system—shows the first year of avoidable capacity as 2028, when the Wateree and Williams coal plants are currently designated to retire and both the summer and winter reserve margins fall below the minimum levels as a result. (Tr. Vol. 4 at 62:18:20–62:19:1.) "And so that shows there is a capacity need in both the summer and the winter, not just in the winter." (Tr. Vol. 4 at 145:1-3.) At the hearing, Witness Neely recognized the capacity need arising from the upcoming coal retirement, agreeing that "[i]f you take 1,200 megawatts off of the system and you don't replace it with anything, then yeah, both reserve margins would drop below their minimums." (Tr. Vol. 2 at 100:20–101:9.)

Witness Sercy continued to recommend that the Commission adopt the revised seasonal allocation proposed in his direct testimony. He emphasized that his proposal did

not dispute DESC had capacity needs in the winter morning based on load patterns, but that the historical data shows summer afternoons are also driving DESC's capacity needs. (Tr. Vol. 4 at 145:14-21.) As a result, Witness Sercy explained his proposal would "accurately" reflect the parallel capacity needs and "make sure that you're not overcompensating during the winter hours and undercompensating during the summer hours." (Tr. Vol. 4 at 145:19-25.)

Lastly, Witness Sercy, responded that, contrary to Witness Neely's testimony, the discovery provided by DESC did not substantiate allocating 100% of capacity value to the winter season. The data provided by DESC showed that when looking *only* at the winter season, the hours between 6AM and 9AM tend to have the highest load, but provided no information about how capacity should be allocated across different seasons, throughout the year. (Tr. Vol. 4 at 62.18:10-16.) Witness Neely acknowledged that the data provided showed "the three highest hours but only for the winter period...it doesn't show any comparison between winter and summer." (Tr. Vol. 2 at 97:24-98:15.)

Like Witness Sercy, LEI noted that the data provided by DESC "lacked information on peak demand or reserve margin trends for months other than December to February. (Hearing Ex. 13 at 37.) However, unlike Witness Sercy, LEI concluded that it was "unable to substantiate the importance of summer capacity," and recommended leaving DESC's current seasonal allocation in place. *Id.* Acknowledging the possibility that the DESC's "capacity allocation may be overly narrow seasonally," LEI recommended that DESC "going forward...provide more clarity and data substantiation on why it believes summer capacity has little to no value should it reach that conclusion." *Id.*

Witness Sercy submitted responsive testimony, noting his support for additional analysis and giving solar-QFs access to the technology neutral capacity rate but reiterating his recommendation for the Commission adopt the alternative seasonal allocation proposal in his direct testimony as the most reasonable approach on the record. (Responsive Testimony of Kenneth Sercy at 7–8 (Oct. 8, 2021).) Witness Sercy highlighted the practical implications of LEI’s recommendation to use technology neutral capacity rates for all QFs while delaying corrections to the seasonal allocation: because under its current proposal, DESC limits capacity payments in the technology neutral capacity rate to a three-hour winter morning window in which there is little to no solar production, standalone solar QFs are likely to receive little if any compensation for their capacity contributions to the grid. (Responsive Testimony of Kenneth Sercy at 6 (Oct. 8, 2021).) Thus, LEI’s recommendation would have the effect of reducing payments to solar QFs to an even greater degree than DESC’s proposed 5% ELCC. (Responsive Testimony of Kenneth Sercy at 6-7 (Oct. 8, 2021).) This outcome is problematic because, as Witness Sercy detailed in his initial testimony, there *is* capacity value on DESC’s system in summer months. *Id.* However, solar QFs will not receive compensation for the value they provide unless seasonal allocation is revised to reflect DESC’s summer capacity needs. *Id.* Moreover, Witness Sercy stated that he had substantiated his recommendation with an analysis and presentation of historical data, whereas DESC has failed to offer any substantive support for its proposal to allocate all capacity value to winter months. (Responsive Testimony of Kenneth Sercy at 7-8 (Oct. 8, 2021).) Instead, DESC has merely repeated the same arguments relating to existing solar on its system and a higher reserve

margin in the winter, both of which were rejected in the 2019 proceeding. (Responsive Testimony of Kenneth Sercy at 8 (Oct. 8, 2021).)

When asked about practical implications of LEI's recommendation, Witness Goulding agreed that it was unlikely the solar QFs would receive compensation for their capacity value under the technology neutral rate that retains DESC's seasonal allocation. (Tr. Vol. 7 at 129:12–130:1.) He further acknowledged that—holding all else equal and recognizing that many factors impact solar development—receiving zero or close to zero capacity compensation as would be the case under LEI's recommendation may “further disincentivize solar QFs from coming online, theoretically”; under the 2019 avoided cost rates, no new solar QFs came online even though they would have received a year-round capacity value of 11.8 percent. (Tr. Vol. 7 at 130–31.)

Still, LEI Witness Goulding defended LEI's recommendation to adopt DESC's proposal for the time being based on the features of DESC's system. In particular, LEI “ultimately came to the conclusion that the allocation to winter was consistent with the approach taken in the IRP.” (Tr. Vol. 7 at 111:8-10.) Witness Goulding further explained that the proposed seasonal allocation was consistent with DESC's stated position that winter peaks would drive future costs and the need for new capacity. (Tr. Vol. 7 at 113.) However, Witness Goulding acknowledged that there may be a summer capacity need when DESC retires the Wateree and Williams coal plants in 2028. (Tr. Vol. 7 at 115–117.) In addition, though Witness Goulding expressed some hesitancy to rely solely on historical load data to derive seasonal allocation, he recognized that, looking to the future, there is a “big coal retirement within the next ten years coming up” on DESC's system. (Tr. Vol. 7 at 121:19–122:24.)



Witness Goulding also confirmed that LEI did not have access to peak demand data for summer months, preventing LEI from comparing summer and winter trends, and agreed that “LEI wasn’t able to substantiate the importance of summer capacity value, but Dominion also didn’t substantiate the absence of any summer capacity value.” (Tr. Vol. 7 at 111:4-22, 112:10-17, 125:3-6.) Witness Goulding clarified that LEI had not submitted a data request for that summer data so he was “not necessarily suggesting that the company wouldn’t have provided that information has [LEI] asked for it.” (Tr. Vol. 7 at 111:24–112:3.) However, he was aware that Witness Sercy had in fact submitted a discovery request for the summer versus winter data but received only the same winter data the Company provided LEI. (Tr. Vol. 7 at 127:22–128:5.) In addition, when presented with the Commission’s 2019 directive for the Company to provide “a much more detailed and transparent analysis concerning the seasonal and hourly value allocation for solar generation in next avoided cost case,” Witness Goulding stated that “there’s room for improvement with regards to transparency.” (Tr. Vol. 7 at 126:6-22.)

Indeed, at the LEI hearing, DESC Witness Neely confirmed again that the Company had not provided summer data in this proceeding—the “next avoided cost case.” Specifically, Commissioner Williams asked him about that same 2019 directive and whether summer data was provided based on that order. After reciting DESC’s arguments for winter capacity—including the solar on the system, the winter reserve margin, and cold weather impacts—Witness Neely responded that DESC “provided the data based on the hours that [the Company] chose in the winter,” which “hasn’t satisfied everyone.” (Tr. Vol. 8 at 187:5 –188:8.)

#### Commission Conclusions

Though the DRR methodology used in DESC's avoided capacity calculations is reasonable, a number of the Company's capacity assumptions and inputs fall short of the requirements of Act 62 and the Commission's prior directives. In future proceedings, DESC must justify its avoided capacity proposals according to industry standard benchmarks and with detailed and transparent analysis.

To begin, DESC's avoided capacity rates as proposed do not "treat small power producers on a fair and equal footing with electrical utility-owned resources. S.C. Code Ann. § 58-41-20(B(1)). While utility-owned resources may receive full cost-recovery despite periods of unavailability and forced outages, DESC's current proposal requires QFs to have 100% availability to receive full capacity compensation. To correct this imbalance, the Commission adopts Witness Sercy and LEI's recommendation to apply a PAF multiplier of 1.05 to the final capital cost value used to develop the avoided capacity rates. As indicated in the testimony of Witness Sercy and LEI, the 1.05 number is based on a 5% outage assumption for the reference technology technology—specifically CTs—that DESC uses in its avoided capacity calculations, and thus is a reasonable adjustment to DESC's avoided capacity rates.

The Commission next finds that DESC's proposed avoided capacity rates do not "fully and accurately reflect" its avoided costs. S.C. Code Ann. § 58-41-20(B(1)). First, it was unreasonable of DESC to use a 100MW capacity change in the change case when its assumed size of a new generating unit was 66MW. As both Witness Horii and LEI observed, eliminating this mismatch increases avoided capacity cost by about 17%. Moreover, correcting the mismatch in DESC's proposal is more important than choosing to use a 100MW capacity change rather than 66MW; as DESC's own witness noted,

PURPA permits utility may use a capacity change of up to 100 MW but does not require it to do so.

In addition, DESC made unreasonable capital cost assumptions for the aero-CT technology in its avoided capacity calculations. Witness Sercy found that DESC's assumptions were 13% lower for capital cost and 48% lower for O&M than industry standard EIA data; this difference indicates that the Company's cost assumptions do not "fully and accurately" reflect avoided costs. DESC defended the prices as based on "interactions with turbine vendors" but the Commission has no means to verify that assertion and, as a result, finds respected public data sources to be more reliable and transparent than non-public vendor statements. The Commission reached the same conclusion in DESC's IRP proceeding. Further, Witness Neely's suggestion that Order No. 2021-429 directs the Company to use "actual bid data" takes the Commission's directive out of context; rather than favoring non-public vendor data, the Commission was instructing the Company's to make use of the price discovery benefits of future all source procurements.

The Company's ELCC calculation and seasonal capacity allocation raise further accuracy concerns, in addition to transparency. DESC proposes an ELCC rate of 5%, which is significantly lower than the 11.8% approved in 2019 and that of peer southeastern utilities. In support, DESC asserts that as more solar has been added to DESC's system it has decreased in value; yet, the Company has not presented any ELCC calculations supporting its results, even in discovery. Even though the SAS program used by DESC does not show intermediate results, the Commission agrees with Witness Sercy and LEI Witness Goulding that DESC should have produced the calculations in standard report

format to facilitate independent review. Moreover, to the extent intervenors were able to review the Company's methodology and analysis, it seems DESC did not employ best practices to calculate its ELCC. Witness Sercy testified that the Company used "two or three years" of data, whereas industry standard ELCC calculations use "two or three decades." The Commission expects DESC to employ a more transparent and rigorous approach to ELCC in future proceedings.

Given the lack of support provided for DESC's ELCC calculation and the advantages of the technology neutral rate as described by Witness Sercy and LEI Witness Goulding, the Commission adopts Witness Sercy's recommendation that solar QFs be eligible for the technology neutral, avoided capacity rates. As with avoided energy rates, technology neutrality provides clear price signals and appropriately reflects costs that are avoided from a utility's perspective.

The Commission further adopts Witness Sercy's recommendation to revise the seasonal capacity allocation under the Company's technology neutral rate as the most reasonable approach on the record. Witness Sercy provided data-driven support for his proposal based on the five most recent years of public, historical hourly load data and employed a conservative approach with respect to shoulder months. As such the Commission adopts Witness Sercy's proposal to allocate 52% of the Company's annual avoided capacity value to winter hours of 6am to 9am during January and February, and 48% of capacity value to the summer hours of 2pm to 8pm during June, July and August.

In contrast, DESC's proposal to allocate 100% of capacity value to winter mornings is not supported by the record. Even in discovery, DESC offered only winter data in support of its seasonal allocation; this subset of data without additional context

demonstrates nothing about how capacity should be allocated throughout the year. Instead, DESC offers only unsubstantiated assertions that solar has decreasing value on its system and that winter demand and reserve margins are driving its capacity needs. But the evidence presented by Witness Sercy indicates that DESC's system continues to have summer capacity needs even accounting for existing solar on the system. In addition, DESC's 100% of allocation to winter months cannot be reconciled with the Commission-approved plans to retire Wateree and Williams in 2028; as DESC's own witness and modeling indicates, both summer and winter reserve margins will fall below minimum levels when those units are retired.

The Commission agrees with LEI that DESC should in future proceedings provide more clarity and data substantiation in support of its position that summer capacity has little to no value. However, the Commission cannot adopt LEI's recommendation to approve DESC's seasonal allocation in this proceeding. First, this allocation is directly contradicted by historical load data and DESC's 2028 capacity need. Moreover, though LEI concluded it was unable to substantiate summer capacity value on DESC's system, it also acknowledged that DESC had not substantiated the *absence* of summer capacity value. LEI's recommendation would merely require DESC to present data that should have been presented in this proceeding pursuant to the Commission's 2019 directive for DESC to provide "a much more detailed and transparent analysis concerning the seasonal and hourly value allocation for solar generation in next avoided cost case." In future proceedings, DESC must support its proposed seasonal and hourly capacity allocation with data and analysis that present a comparison of peak demand and load data throughout the year.

### **C. Transparency**

### Summary of Evidence

The evidence in support of these findings of fact is found in the testimony and exhibits in this Docket and the entire record in this proceeding.

CCL/SACE Witness Sercy testified that DESC's filings, including the two supplemental applications and testimony lacked information about "fundamental aspects of its proposal, such as its natural gas price forecast, the methodology used to develop its pricing periods, or the details of its ELCC calculations, all of which have a significant bearing on the accuracy of its avoided cost rates." (Tr. Vol. 4 at 58:22–59:3.) Based on the missing information in DESC's application, Witness Sercy stated that DESC did not meet the EFA's requirements for "[e]ach electrical utility's avoided cost filing must be reasonably transparent so that underlying assumptions, data, and results can be independently reviewed and verified by the parties and the commission." S.C. Code Ann. § 58-41-20 (J). (Tr. Vol. 4 at 60:33.) Witness Sercy observed that to facilitate an independent review by the parties and Commission, and "[i]n order to determine whether DESC has proposed full and accurate avoided cost rates, it is critical to be able to review them and benchmark the assumptions against those approved by the Commission in related proceedings, such as the 2020 IRP proceeding." *Id.* Further, even where the company provided data in discovery, key information still remained unclear or missing. (Tr. Vol. 4 at 59:4-8.) Likewise, CCEBA Witness Burgess testified to the deficiencies in DESC's initial filings and discovery as it related to the VIC. (Tr. Vol. 5 at 165:19–166:19, 191:16–192:5.)

In rebuttal, DESC Witness Kassis emphasized that DESC had responded to over 90 discovery questions and even responded to seven of the fourteen sets prior to the required

deadline. (Tr. Vol. 1 at 25:17-20.) In addition, Witness Kassis stated there had been no motions to compel. *Id.* At the hearing, Witness Kassis clarified that he was only responsible for preparing “a couple of” the discovery responses cited in his rebuttal testimony, and was not responsible for preparing, nor did he “review in detail” discovery responses relating to pricing periods—one of the subject where Witness Sercy noted a deficiency. (Tr. Vol. 1 at 73:13-18, 74:2-14.) Further, he “d[id] not have any personal knowledge about whether the—the information that Witness Sercy claims was not included in those responses...was included or whether it was not.” (Tr. Vol 1 at 75:12-21).

In addition, Vice Chair Belser asked Witness Kassis to walk her through the “layout of the application” and what data was included. (Tr. Vol. 1 at 102–03, 106–16.) After going through application, Vice Chair Belser stated “[s]o these are the results of all the studies... the forms that are needed for [] the Commission’s consideration and the changes to those forms....So [] I have a question as to where is all the underlying data, assumptions, and results for our review?” (Tr. Vol. 1 at 115:18–116:7.) Specifically, with respect to component of application titled “Rate PR Avoided Cost methodology,” Witness Kassis agreed with Vice Chair Belser that it “really just kind of sets forth some definitions and components...of potential methodology,” but “there’s no data with that.” (Tr. Vol. 1 at 102:9-20.) Vice Chair Belser put the parties on notice that the Commission is “dependent on what the parties -- the company and the parties put forward.” (Tr. Vol. 1 at 116:18–117:5.) Further, in response to Witness Neely’s response that certain data had been provided in discovery, Vice Chair Belser observed “if it’s in the data request responses, how does the Commission get to see that,” to which Witness Bell had no response. (Tr. Vol. 3 at 14:2-4.) Still, Witness Kassis represented to Chairman Williams that the Company

had taken the Commission's 2019 directive to improve transparency "seriously" and that "any claim otherwise by a party or even the Commission is [] misguided" (Tr. Vol. 1 at 161:21-22, 162:14-16.)

Witness Kassis further suggested Witness Sercy's critique was unreasonable because ORS Witness Horii found the Company's transparency sufficient. (Tr. Vol. 1 at 20:173-12; Tr. Vol. 6 at 32.4:16-22.) However, at the hearing Witness Horii indicated that he did not do an in-depth analysis of some of the key inputs in DESC's application. For example, Witness Horii did not look at *how* DESC grouped its pricing periods, only the result, or do a "deep dive" into the ELCC analysis, meaning he did not look at DESC's "specific models or any of their detailed output." (Tr. Vol. 6 at 64:7-12, 65:14-18, 69:5-6, 69:18-23.) Witness Horii clarified that the statement in his testimony regarding transparency "should be put in context in terms of the transparency and the adequacy of information provided was sufficient for...the analyses that [he] did," adding that it "doesn't mean that if another party felt that they could have used more information, that [his] saying that what Dominion provided was transparent [] negates what the other party says." (Tr. Vol. 6 at 64:12-22.) Moreover, in response to Commissioner Ervin's questioning, Witness Horii indicated that additional information may have actually benefited his analysis. (Tr. Vol. 6 at 102:19 –103:1, 103:13-15.)

In response to Witness's Kassis's emphasis on the discovery DESC provided, Witness Sercy distinguished two aspects of CCL/SACE's transparency concerns, neither of which were resolved through on-time discovery. The "first piece was that [CCL/SACE] had to ask discovery in the first place a lot of very, very basic information pieces relevant to these avoided costs rate proposals" even though "the 'underlying assumptions, data, and



results’ of DESC’s proposed avoided cost rates should have been included in the initial filing, as specified by Act 62.” (Tr. Vol. 4 at 105:8-19). When “critical elements of DESC’s calculations and final proposals,” such as gas prices, are left out of the application, intervenors must “expend valuable time and resources posing, waiting for, and reviewing discovery requests,” leaving little time to prepare testimony. (Tr. Vol. 4 at 62.21–62.22.) The “second piece [] was that...even when we had those discovery responses...those answers did not actually provide the information that we asked for and needed in some of those cases.” (Tr. Vol. 4 at 105:8-19.) For example, DESC provided responses in the case of ELCC and pricing periods “but the response[s were] deficient in terms of actually explaining what they did and -- and legitimately answering [the] question.” (Tr. Vol. 4 at 107:18-12.) Witness Sercy observed at the hearing that “if [DESC is] not transparent and intervenors can’t determine how they came up with their proposals or whether those proposals are reasonable, that could very well lead to a bad outcome for customers.” (Tr. Vol. 4 at 175:17-24.)

Likewise, the LEI Report concluded that, despite DESC’s responsiveness in discovery, there was “room for improvement” with respect to transparency. (Hearing Ex. 13 at 70.) LEI explained that “transparency should be judged primarily not based on whether questions were answered when asked, but rather on whether the application was presented in a way which minimizes the need for interrogatories in the first place,” noting that more detail in the application itself would reduce stakeholder costs in reviewing the application and the burden on the applicant in responding to discovery. *Id.* In particular, LEI highlighted that “when presenting forecast results, it is important to also clearly discuss

underlying assumptions such as gas prices, entry and exit assumptions, load growth assumption, whether other scenarios were run, and other key drivers.” *Id.*

DESC Witness Kassis responded to LEI’s conclusions, arguing that LEI’s standard was required by Act 62 and that LEI itself had not met this standard because intervenors served discovery on LEI relating to its report. (Tr. Vol. 8 at 148:1-14.) Witness Kassis even suggested that, should the Commission adopt LEI’s standard, “intervenors seeking to discredit DESC’s transparency would be incentivized to issue discovery requests when they otherwise may not issue such requests.” (Tr. Vol. 8 at 151.3 n.4.) However, on cross-examination, Witness Kassis clarified that intervenors should not have to use up their limited number interrogatories asking for basic information and calculations rather than using them to drill into specific questions after key material has already been disclosed. (Tr. Vol. 8 at 160:1-15.) At the hearing, LEI Witness Goulding clarified that LEI thought “expanding on assumptions and processes would be helpful” and further clarified his view that “the standard was [not] that there would be no questions asked, but rather [] potentially fewer and different questions.” (Tr. Vol. 7 at 160:8-20.)

#### Commission Conclusions

As indicated throughout this Order, the Commission finds that DESC’s avoided cost filings were not “reasonably transparent so that underlying assumptions, data, and results [could] be independently reviewed and verified by the parties and the commission.” S.C. Code Ann. § 58-41-20(J). DESC’s avoided cost applications and testimony omitted basic assumptions and underlying data to such an extent that it inhibited independent review and verification by the parties and Commission. The Commission views reasonable transparency as a central requirement of § 58-41-20, designed to ensure that avoided cost

proceedings are thorough, efficient, and productive, and to inspire confidence in rates ultimately passed to customers.

To meet Act 62's transparency standard, DESC must include in its future avoided cost applications data such as major production cost model inputs, details relating to its pricing period development and ELCC calculation, and the basis of its seasonal capacity allocation and hours for capacity payments. Though it is required and expected, it is insufficient to provide timely discovery responses under this standard. The plain language requires transparency at the outset of the proceeding, within the utility's "avoided cost *filing*." In addition, Act 62 avoided cost proceedings will always be conducted under a biennial deadline and it is therefore a waste of valuable time and resources to use discovery to obtain basic data rather than to gain a more thorough understanding of the many complex, technical issues presented in avoided cost proceedings. Lastly, the parties are reminded that, because the Commission may not propound discovery, the Commission relies on the applicant to present underlying assumptions, data, and results in a manner that facilitates independent review and verification.

#### **D. Reducing Risk to Ratepayers**

##### Summary of Evidence

The evidence in support of these findings of fact is found in the testimony and exhibits in this Docket and the entire record in this proceeding.

##### *Overpayment Risk*

A reoccurring topic of discussion at the hearing was the risk to ratepayers of setting avoided costs too high, given Act 62's directive for the Commission to "strive to reduce the risk placed on the using and consuming public." S.C. Code Ann. 58-41-20(A). In

response to Chairman Williams's question asking about the risks of overpayment, DESC Witness Kassis noted the risks to customers of stale avoided cost rates, longer term contracts, and mitigating this risk under PURPA, ultimately agreeing "that there will always be some risk of overpayment" (Tr. Vol. 1 at 159–61.) In response to the same question from Chairman Williams, Witness Sercy noted that the Commission should "keep a full picture of risks"; for example, "[w]hat if [fuel costs are higher than we expect them to be, in which case the avoided costs [] are actually lower than the reality. And in that case, ratepayers are getting a deal." (Tr. Vol. 4 at 160:1-14.) In addition, Witness Sercy urged the Commission to consider DESC's generation mix when considering risks to ratepayers:

Dominion's generation mix today is more than 70 percent coal and gas, and it's [] about 8 to 10 percent solar. And the QFs that might come on-line under this tariff [] might be a percentage point or 2 percent or 3 percent. So when you weigh...the risk to ratepayers from that 70 percent of existing generation [] that fuel price and greenhouse gas exposure absolutely dwarfs the overpayment risk side of it, which again is only...a few percentage points...versus over 70 percent.

(Tr. Vol. 4 at 161:1-14.)

At the LEI Hearing, DESC Witness Kassis continued to emphasize the risk of overpayment and his agreement with LEI's view that "ensuring DESC's avoided cost rates do not result in overpayment [to] QFs should be a key objective of this docket." (Tr. Vol. 8 at 148:15-20.) In fact, both the LEI Report and testimony of Witness Goulding addressed a range of risks to consider in the context of setting accurate avoided costs. In particular, the LEI Report advocated for a "holistic consideration of risk" that looks beyond the cost to consumers to consider the risk of under-procurement, the value of the hedge QFs provide ratepayers if contracts turn out to be less than true avoided costs, and the benefits of QFs providing a degree of competition to utilities. (Hearing Ex. 13 at 72.) LEI Witness

Goulding expanded on the various forms of risk at the hearing, noting generally that it is important to think about risks with a “degree of symmetry” and to balance to need to protect customer from paying too much against the possibility of “in year seven or eight, having not gotten a deal that would have helped them to manage costs in the presence of upward cost drivers.” (Tr. Vol. 7 at 161:11-19, 163:9-15.) Witness Goulding acknowledged that there were in the past “circumstances where, in hindsight, contracts were too high,” but that “in the current environment in which [] there are concerns about inflation, about global supply chains, about how environmental regulations are going to involve, [] the cost of QFs today may prove to be a bargain.” (Tr. Vol. 7 at 162:10-17.) For example, if over the next ten years gas prices continue to increase, DESC can pass those rising prices on to ratepayers while QFs are locked into rates that incorporate lower prices; given this possibility “it’s incorrect to only focus on the possibility that the prices are [] set too high.” (Tr. Vol. 7 at 163:23–164:18.)

Witness Goulding further spoke to the risk of not having a robust independent industry against which to benchmark the costs and performance of utility services. (Tr. Vol. 7 at 164:19–166:1.) He explained that one of the outcomes of PURPA was the development of a diverse independent power sector, which, in addition to creating an ecosystem that can support arrangements like requests for proposals (“RFPs”), “allows for the ability to hedge [] against the utility” and creates opportunity to understand the tradeoffs between the value of independent power producers and the utility system. *Id.*

#### *Competing Incentives in Setting Avoided Cost Rates*

A related topic at the hearing was stakeholder incentives to either deflate or inflate avoided costs based on competing economic interests. In response to Chairman Williams

asking whether DESC had any profit motive in calculating avoided costs, DESC Witness Kassis stated that DESC had no profit motive in calculating avoided costs but that solar developers were incentivized to obtain greater avoided cost rates. (Tr. Vol. 1 at 163:3-6, 165:8-16, 166:1-6.) DESC Witness David also stated that DESC had no motive to suppress avoided costs because they are “able to recover the costs that they incur to generate power,” so it is only ratepayers who are impacted by avoided costs and not DESC’s “bottom line.” (Tr. Vol. 3 at 168:11–169:1.)

In contrast, and in response to the same question from Chair Williams, Witness Sercy testified that the Company *does* have a financial interest in suppressing avoided costs. He explained that DESC is a for-profit company and the way it makes money for its shareholders is “by expanding their rate base, and that means building and owning their own assets, including generation and other assets, transmission and distribution.” (Tr. Vol. 4 at 156:2-12.) In light of this business model, “every QF that comes on the system that is an independent power-producer-owned facility that is selling power to Dominion is chipping away at that generation marker and is chipping away at the rate base that Dominion might otherwise capture [] essentially with its monopoly status.” (Tr. Vol. 4 at 156.) Chairman Williams then asked why, with respect to transparency issues raised in the proceeding, “a utility company would aid and assist their competitor in an adversarial proceeding like this one,” to which Witness Sercy responded that a utility may not if the Commission was not requiring them to provide upfront information. (Tr. Vol. 4 at 158:12–159:5.)

In response to DESC counsel’s suggestion that CCL/SACE was attempting to inflate avoided costs, Witness Sercy clarified that “[a]voided costs are what ratepayers

would have paid anyway for power, and the company has simply underestimated the avoided costs.” (Tr. Vol. 4 at 87:4-8.) With respect to gas prices, Witness Sercy made the same observation that “what we’re trying to do here is...identify[] the realistic price that customers were going to pay anyway.” (Tr. Vol. 4 at 134:15-23.) CCEBA Witness Levitas, who is employed by a solar developer, agreed that solar developers “are not entitled to [] get an accurate avoided cost rate just because that’s what we need to do projects and to make money,” but “are entitled to get an accurate avoided cost rate, and... if you’re interested in [] future QF development in the state or other types of solar development in the state, it’s really important to get the numbers right.” (Tr. Vol. 5 at 288:23–289:6.)

#### Commission Conclusions

In “striv[ing] to reduce the risks placed on the using and consuming public,” S.C. Code Ann. 58-41-20(A), the Commission adopts LEI Witness Goulding’s recommendation to consider risk with a “degree of symmetry.” Consideration of risk requires balancing the risk of setting avoided costs too high, and passing those costs on to ratepayers, against the risk of setting rates too low, which may discourage QF development that may have otherwise insulated ratepayers from the price impacts of a fluctuating market. The Commission further recognizes a risk in not having a robust independent industry against which to benchmark the costs and performance of utility services. *See FERC v. Mississippi*, 456 U.S. 742, 750 (1982) (stating that, in enacting PURPA, Congress “recognized that electric utilities have traditionally been “reluctant to purchase power from, and to sell power to, the nontraditional facilities.”)

Further, with Act 62’s legislative overhaul, the General Assembly entitled QF developers to “rates for the purchase of energy and capacity [that] fully and accurately

reflect the electrical utility's avoided costs." The Commission considers this the central objective underlying the substantive and procedural requirements of S.C. Code § 58-41-20, as well as the surest way to reduce risk to ratepayers. Accordingly, avoided costs that do not "fully and accurately reflect the electrical utility's avoided costs" cannot be "just and reasonable to ratepayers." To the extent any party in this proceeding, including the applicant, attempts to deflate or inflate avoided costs to further profit motives, those costs are not "accurate."

### **E. PURPA's Role in Renewable and Solar Development**

#### Summary of Evidence

The evidence in support of these findings of fact is found in the testimony and exhibits in this Docket and the entire record in this proceeding.

DESC Witness Kassis submitted testimony regarding the recent increase of solar on DESC system. (*See* Tr. Vol. 1 at 16). However, at the hearing it came out that in the last two years, since the last avoided cost proceeding, there had not been any new solar-only QF to come on to DESC's system and only one solar-plus-storage project. (Tr. Vol. 1 at 49:6-11, 98:24-99:7, 149:15-19). When asked why this may be, Witness Kassis attributed it to COVID disruptions and suggested the DESC system may have reached its saturation point for solar QFs. (Tr. Vol. 1 at 128:10-14, 156:17-20.) He added that though PURPA used to be the main driver of solar development, today "there are better ways to do renewable energy than QFs." (Tr. Vol. 1 at 16:19-17:1, 157:15-24.) Witness Neely echoed Witness Kassis's position, agreeing that it would be better to invest in utility-scale solar down the road. (Tr. Vol. 2 at 149, 153:15-19.) However, DESC Witness David, when asked if the solar market was saturated, took a different position, stating: "the [solar market



in DESC territory] is definitely not over saturated. There is still room for additional solar capacity...for that to be a profitable venture for a wide array of potential developers.” (Tr. Vol. 3 at 167:5-16.)

CCEBA Witness Levitas provided alternative explanations for the absence of any new solar QFs, attributing the lack of development to the low avoided cost rate “coupled with the VIC uncertainty.” (Tr. Vol. 5 at 288:2-7.) CCL/SACE Witness Sercy acknowledged that as more solar QFs are added to the system there may be diminishing value, but also observed that the lack of development may be part of a waxing and waning in the QF market as load and capacity needs change. (Tr. Vol. 4 at 162:16–163:22.) In addition, he noted that a contract term of 10 years, as approved in the 2019 avoided cost rates, is low for the renewable energy industry; typically, the norm is 20 years and the range is 15 to 25 years. (Tr. Vol. 4 at 164:2-7.) And, “all else being equal, with a lower term length, you’re going to have to have higher dollar per megawatt-hour compensation in order for capital provider to be comfortable and [] project economics to work.” (Tr. Vol. 4 at 164:10-14.)

LEI Witness Goulding agreed that PURPA continues to provide value to the energy market and ratepayers as a result. (Tr. Vol. 7 at 166:2-25.) However, the LEI Report also noted that the best way to procure renewables going forward is for the utility to be directed to issue RFPs consistent with an approved IRP. (Hearing Ex. 13 at 71.) LEI observed that “such an RFP-based process provides the benefits of coordination based on an IRP, price discovery based on a competitive process, and reasonable opportunities for incumbent participation.” *Id.*

#### Commission Conclusions

While the Commission encourages the Company to explore additional ways to add renewable energy to the system, PURPA and its requirements continue to provide value to the ratepayers. The Commission finds that a robust competitive market benefits ratepayers, and that such a market would not otherwise would not exist for DESC, a vertically integrated utility that is not part of a wholesale energy market.

At the hearing, the parties provided a variety of explanations to explain why no new solar-only QFs have come online under DESC 2019 avoided cost rates. While the Commission recognizes that there may be myriad reasons why solar QF development has stalled, not least among them challenges created by COVID-19, it is not persuaded that the solar market is saturated in South Carolina and urges the parties to monitor and evaluate trends in QF development.

#### **VIII. ORDERING PARAGRAPHS**

NOW, THEREFORE, IT IS HEREBY ORDERED THAT:

1. DESC shall make the following changes to its 2021 avoided energy rates:
  - a. DESC shall re-run the PLEXOS modeling using resampled NYMEX data and with reasonable gas price assumptions based on the blended approach recommended in CCL/SACE Witness Sercy's direct testimony, which uses the EIA AEO reference case directly for avoided cost calculations and not only for the escalation rate.
  - b. Solar-only QFs shall be eligible for the PR-Standard Offer technology neutral avoided energy rate.
2. DESC shall make the following changes to its 2021 avoided capacity rates:

- a. DESC shall correct the mismatch between the change case and the assumed size of a new generating unit in its avoided capacity calculations. The Commission directs DESC to adopt Witness Horii's recommendation to reduce the assumed capacity change in the change case to 66MW.
  - b. DESC shall apply a PAF of 1.05 to the final \$/kW-year capital cost value used to develop the avoided capacity rates.
  - c. DESC shall revise the aero-CT capital cost and O&M assumptions using the most recent the EIA cost data that is available.
  - d. Solar-only QFs shall be eligible for the PR-Standard Offer technology-neutral avoided capacity rate.
  - e. Under its technology-neutral avoided capacity rate, DESC shall adopt the seasonal capacity allocation set out CCL/SACE Witness Sercy's direct testimony, which allocates 52% of the Company's annual avoided capacity value to winter hours of 6am to 9am during January and February, and 48% of capacity value to the summer hours of 2pm to 8pm during June, July and August.
3. In future avoided cost proceedings, DESC shall incorporate the following directives in its avoided cost application:
  - a. DESC shall use the EIA reference case to develop the long-term gas price forecast used in its avoided energy calculations, rather than applying an escalation rate to short-term futures.

- b. DESC shall employ a data-driven approach to grouping hours and months into pricing periods, using the approach set out CCL/SACE Witness Sercy's surrebuttal testimony. DESC shall present methodological support for its pricing periods in future avoided cost proceedings in a format that facilitates intervenor and Commission review.
- c. DESC shall perform any future ELCC calculations in a manner consistent with best practices, including evaluating large datasets and using rigorous ELCC methodologies.
- d. To ensure the accuracy of future avoided capacity calculations under the DRR methodology, DESC shall reduce the mismatch to the greatest extent possible between the assumed capacity change in the change case and the assumed size of a new generator.
- e. DESC shall ensure that future avoided cost applications are "reasonably transparent so that underlying assumptions, data, and results can be independently reviewed and verified by the parties and the commission." S.C. Code Ann. § 58-41-20(J). To meet this standard, DESC's avoided cost filing must at least include: major production cost model inputs, details relating to its pricing period development and ELCC calculation, and the basis of its seasonal capacity allocation and hours for capacity payments. DESC is encouraged to present any additional data in its application that will

facilitate independent review and that it expects may reduce the burdens of the discovery process.

BY ORDER OF THE COMMISSION:

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Justin T. Williams, Chairman  
Public Service Commission of  
South Carolina